

2023 MANFRED LACHS SPACE LAW MOOT COURT COMPETITION

TEAM No. 5



IN THE INTERNATIONAL COURT OF JUSTICE

AT THE

PEACE PALACE, THE HAGUE

Case concerning

Laser Activities and the Use of Anti-Satellite Weapons in Outer Space

ARGYLIAM

V.

KOLIGIAN

ON SUBMISSION TO THE INTERNATIONAL COURT OF JUSTICE

MEMORIAL FOR THE RESPONDENT

KOLIGIAN

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b. Argyliam violated the obligation of undertaking international consultations. 4

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LIST OF ABBREVIATIONS

ARSIWA	Articles on Responsibility of States for Internationally Wrongful Acts
ASAT	Anti-Satellite
Compromis	Facts of the present case, as agreed by the Parties
COPUOS	Committee on the Peaceful Uses of Outer Space
I.C.J.	International Court of Justice
Inc.	Incorporated
LEO	Low Earth Orbit
LIAB	Convention on International Liability for Damage
LTS	Long-term Sustainability of Outer Space Activities
NASA	National Aeronautics and Space Administration of U.S.
OST	Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies
P.C.I.J.	Permanent Court of International Justice
R.I.A.A.	Reports of International Arbitral Awards
SSA	Space Situational Awareness
SSV	Space Servicing Vehicle
TCBMs	Transparency and Confidence-Building Measures in Outer Space Activities
U.N.	United Nations
U.N.G.A.	United Nations General Assembly
U.S.	United States of America
UNIDIR	United Nations Institute for Disarmament Research
v.	Versus
VCLT	Vienna Convention on the Law of Treaties

TABLE OF AUTHORITIES

I. TREATIES AND INTERNATIONAL AGREEMENTS

Convention on International Liability for Damage Caused by Space Objects, <i>entered into force</i> , Oct. 9, 1973, 24 U.S.T. 2389, 961 U.N.T.S. 187.[hereinafter <i>LIAB</i>]... <i>passim</i>	
Statute of the International Court of Justice, <i>entered into force</i> Oct. 24, 1945.[hereinafter <i>I.C.J. Statute</i>].....	25
Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, <i>entered into force</i> Oct. 10, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205.[hereinafter <i>OST</i>]	<i>passim</i>
United Nations Charter.[hereinafter <i>U.N. Charter</i>]	<i>passim</i>
Vienna Convention on the Law of Treaties, <i>entered into force</i> May. 23, 1969, 1155 U.N.T.S. 33.[hereinafter <i>VCLT</i>].....	<i>passim</i>

II. CASES

a) International Court of Justice (I.C.J.)

Aegean Sea Continental Shelf (Greece v. Tur.), Judgment, 1978 I.C.J. 3 (Dec. 19).	6
Armed Activities on the Territory of the Congo (Dem. Rep. Congo v. Uganda), Judgment, 2005 I.C.J. 257 (Dec. 19).	20
Case Concerning the Continental Shelf (Libya v. Malta), Judgement, 1985 I.C.J. 13 (June, 3).....	25
Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v. Nicar.), 2015 I.C.J. 665 (Dec. 16) (separate opinion by Robinson, J.).....	8
Corfu Channel (U.K. v. Alb.), Judgment, 1949 I.C.J. 4 (Apr. 9).....	6, 18, 29
Fisheries Jurisdiction Case (Spain v. Can.), Judgment, 1998 I.C.J. 432 (Dec.4). ...	6, 11
Gabčíkovo-Nagymaros Project (Hun. v. Slov.), Judgment, 1997 I.C.J. 7 (Sept. 25)	<i>passim</i>
Jurisdictional Immunities (Ger. v. It.), Judgement, 2012 I.C.J. 100 (Feb. 3).....	25
Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory, Advisory Opinion, 2004 I.C.J. 136 (July 9).....	32
Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, 1996 I.C.J. 226 (July 8).	7, 25
North Sea Continental Shelf (Fed. Rep. Ger. v. Neth.), Judgement, 1969 I.C.J. 4 (Jul. 8)	25
Nottebohm (Liech. v. Guat.), Judgement, 1955 I.C.J. 4 (April, 6).	35

Oil Platforms (Iran v. U.S.), Judgment, 2003 I.C.J. 161 (Nov. 6)	10
Pulp Mills on the River Uruguay (Arg. v. Uru.), Judgement, 2010 I.C.J. 14 (Apr. 20)...	
.....	2, 5
United States Diplomatic and Consular Staff in Tehran (U.S. v. Iran), Judgment, 1980 I.C.J. 3 (May 24).....	11, 18

b) Permanent Court of International Justice (P.C.I.J.)

Factory at Chorzów Case (Ger. v. Pol.), Jurisdiction, 1927 P.C.I.J. (ser. A) No.9 (July 26).	18
--	----

c) Reports of International Arbitral Awards (R.I.A.A.)

Administrative Decision No. II (U.S. v. Ger.), 7 R.I.A.A. 23 (Perm. Ct. Arb. 1930)..	15
Angola Cases (Port. v. Ger.), 2 R.I.A.A. 1011 (Perm. Ct. Arb. 1928, 1930).....	15
Life Insurance Claims (Ger. v. U.S.), 4 R.I.A.A. 121 (Perm. Ct. Arb. 1924).....	15
Lusitania Case (U.S. v. Ger.), 7 R.I.A.A. 23 (Perm. Ct. Arb. 1923).....	35
War-Risk Insurance Premium Claims Arbitration, (U.S. v. Ger.) 7 R.I.A.A. 44 (Perm. Ct. Arb. 1923)	15

d) Other Judicial Decisions

LG&E Energy Corp. et al. v. Argentine Republic, ICSID Case No. ARB/02/1, Decision on Liability, (Oct. 3, 2006), 21 ICSID Rev. 203	11
M/V Saiga (No.2) (St. Vincent v. Guinea), Case No.2, Judgment of July 1, 1999, ITLOS Rep. 10	12

III. UNITED NATIONS' MATERIALS

Articles on Responsibility of States for Internationally Wrongful Acts, Int'l Law Comm'n, 53rd Sess., U.N. Doc. A/56/83 (2001).....	<i>passim</i>
Draft Treaty on the Prevention of the Placement of Weapons in Outer Space, and of the Threat or Use of Force against Outer Space Objects, U.N. Doc. CD/1839 (Oct. 29, 2008)	34
G.A. Res. 60/99, at, 27, <i>International Cooperation in the Peaceful uses of Outer Space</i> , (Jan. 6, 2006).....	26
G.A. Res. 73/203, <i>Identification of customary international law</i> (Feb. 14, 2019).....	25
Int'l Law. Comm'n, Rep. on the Work of Its 53 rd Sess., U.N. Doc. A/56/10 (2001).	<i>Passim</i>
Special Rapporteur on International Liability, <i>Third Report of the Special Rapporteur</i> , Int'l. Law Comm., U.N. Doc DA/CN.4/360 (Jun. 28, 1982) (by Robert Quentin-Baxter).	

.....	16
U.N. Comm. on the Peaceful Use of Outer Space, <i>Guidelines for the Long-term Sustainability of Outer Space Activities of the Committee on the Peaceful Uses of Outer Space</i> , U.N. Doc. A/74/20 (June 12-21, 2019)	3
U.N. Comm. on the Peaceful Use of Outer Space, <i>Rep. of the Events of Interest</i> , U.N. DOC. A/CONF.101/11 (Nov. 2, 1982).....	30
U.N. Comm. on the Peaceful Uses of Outer Space, <i>Active Debris Removal, Rep. of the International Interdisciplinary Congress on Space Debris Remediation and On-Orbit Satellite Servicing</i> , at 47, 48, U.N. Doc. A/AC.105/C.1/2012/CRP.16 (Jan. 27, 2012).	27
U.N. Comm. on the Peaceful Uses of Outer Space, <i>Inter-Agency Space Debris Coordination Committee Space Debris Mitigation Guidelines</i> , U.N. Doc. A/AC.105/C.1/L.260 (Nov. 29, 2002)	20
U.N. Comm. on the Peaceful Uses of Outer Space, Recommendations of the Group of Governmental Experts on Transparency and Confidence-building Measures in Outer Space Activities: views of States members of the Committee on the Peaceful Uses of Outer Space, U.N. Doc. A/AC.105/1080 (Nov. 7, 2014).....	13
U.N. Comm. on the Peaceful Uses of Outer Space, Recommendations of the Group of Governmental Experts on Transparency and Confidence-building Measures in Outer Space Activities: views of States members of the Committee on the Peaceful Uses of Outer Space, U.N. Doc. A/AC.105/1080/Add.2 (Mar.13, 2015).....	13
U.N. GAOR, 9th Sess., at 52, U.N. Doc. A/AC.105/C.2/SR.94 (July. 3, 1968) (French, Canadian & Italian delegate)	14
U.N. Int'l L. Comm'n, 56th Sess., <i>Provisional Summary Rec. of the 2791st Meeting</i> U.N. Doc. A/CN.4/SR.2791 (May 7, 2004).....	18
U.N. Secretary-General, <i>Current Developments in Science and Technology and Their Potential Impact on International Security and Disarmament Efforts</i> , U.N. Doc. A/76/182 (July 19, 2021)	2, 3, 7
U.N. Secretary-General, <i>Reducing space threats through norms, rules and principles of responsible behaviours</i> , U.N. Doc. A/76/77 (July 13, 2021).....	5, 8, 12, 13, 22
U.N. Secretary-General, <i>Rep. of the Group of Governmental Experts on further practical measures for the prevention of an arms race in outer space</i> , U.N. Doc. A/74/77 (Apr. 9 2019).....	12
U.N. Secretary-General, <i>Rep. of the Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities</i> , U.N. Doc. A/68/189 (July 29, 2013).	13

IV. LITERATURE

a) Books

BIN CHENG, GENERAL PRINCIPLES OF LAW AS APPLIED BY INTERNATIONAL COURTS AND TRIBUNALS (1953).....	18
BIN CHENG, STUDIES IN INTERNATIONAL SPACE LAW (1998).....	14
BUENOS AIRES, REPORT OF THE 53D CONFERENCE OF THE I.L.A. (1968).....	34
CHRISTIAN HENDERSON, THE USE OF FORCE AND INTERNATIONAL LAW (2018).....	6
CHRISTOPHER J. BORGEN, THE FUTURE LAW OF THE ARMED CONFLICT (2022)	22
DAVID WRIGHT, LAURA GREGO & LISBETH GRONLUND, THE PHYSICS OF SPACE SECURITY (2005).....	22
H. KLINKRAD, SPACE DEBRIS: MODELS AND RISK ANALYSIS (2006)	21
H.L.A. HART & T. HONORE, CAUSATION IN THE LAW (1985).....	15
IAN BROWNLIE, INTERNATIONAL LAW AND THE USE OF FORCE BY STATES (1963).....	7
IAN BROWNLIE, PRINCIPLES OF PUBLIC INTERNATIONAL LAW (2008).....	17
J. PAULSSON, DENIAL OF JUSTICE IN INTERNATIONAL LAW (2005).....	28
J. SCHEFTER, THE GROWING PERIL OF SPACE DEBRIS, 221/1 POPULAR SCIENCE (1982)	27
J.H.W. VERZIJL, INTERNATIONAL LAW IN HISTORICAL PERSPECTIVE: STATE TERRITORY (1970).....	28
JULIAN HERMIDA, LEGAL BASIS FOR A NATIONAL SPACE LEGISLATION (2004).....	19
KATARZYNA MALINOWSKA, RISK MANAGEMENT AND INSURANCE OF ON-ORBIT SERVICING (2020).....	32
L. ANSELMO, SPACE DEBRIS, 41 ADVANCES IN SPACE RESEARCH (2008)	21
LORD MCNAIR, INTERNATIONAL LAW OPINIONS (1956)	30
M. WELL, IRAQ AND KUWAIT: THE HOSTILITIES AND THEIR AFTERMATH (1993).....	8
M.T. SAVAGE, THE MILLENNIAL PROJECT: COLONIZING THE GALAXY IN EIGHT EASY STEPS (1992)	27
MALCOLM SHAW, INTERNATIONAL LAW (2017).....	25
MANFRED LACHS, THE LAW OF OUTER SPACE: AN EXPERIENCE IN CONTEMPORARY LAW-MAKING (1972).....	1, 16, 21
OLIVIER CORTEN, THE LAW AGAINST WAR: THE PROHIBITION ON THE USE OF FORCE IN CONTEMPORARY INTERNATIONAL LAW (2010).....	6, 8, 24, 28
SPACESECURITY.ORG., SPACE SECURITY 2008 (2008)	28
W. R. MANNING, DIPLOMATIC CORRESPONDENCE OF THE UNITED STATES: CANADIAN RELATIONS, 1784–1860 (1943)	30
W.S. WONG & J. FERGUSSON, MILITARY SPACE POWER: A GUIDE TO THE ISSUES (2010)	27

WILLIAM H. BOOTHBY, THE LAW OF TARGETING (2012).....	23
YORAM DINSTEIN, WAR, AGGRESSION AND SELF-DEFENCE (2005).....	6

b) Collections

Albrecht Randelzhofer, <i>Article 2(4), in 1 THE CHARTER OF THE UNITED NATIONS: A COMMENTARY</i> , 200 (Bruno Simma ed. 2012).....	28
Armel Kerrest & Lesley Jane Smith, <i>Article VII, in 1 COLOGNE COMMENTARY ON SPACE LAW</i> , 126 (Stephan Hobe et al. eds.,2009).....	35
Eligar Sadeh, <i>Obstacles to International Space Governance, in 3 HANDBOOK OF SPACE: SECURITY POLICIES, APPLICATIONS AND PROGRAMS 23</i> (Kai-Uwe Schrogl et al. eds., 2015)	27
L. J. Smith & A. Kerrest, <i>Article III: LIAB, in 2 COLOGNE COMMENTARY ON SPACE LAW 131</i> (Stephan Hobe et al. eds., 2009).	15
L. Perek, <i>Ex Facto Sequitur Lex: Facts which Merit Reflection in Space Law in Particular with Regard to Registration and Space Debris Mitigation, in II ESSENTIAL AIR AND SPACE LAW-SPACE LAW: CURRENT PROBLEMS AND PERSPECTIVES FOR FUTURE REGULATION 29</i> (Marietta Benko & Kai-Uwe Schrogl et al. eds., 2005).....	21
Lars Hostbeck, <i>Space Weapons, Concepts and their International Security Implications, in 54 HANDBOOK OF SPACE: SECURITY POLICIES, APPLICATIONS AND PROGRAMS 955</i> (Kai-Uwe Schrogl et al. eds., 2015).....	32
Sergio Marchisio, <i>Article IX, in 1 COLOGNE COMMENTARY ON SPACE LAW 169</i> (Stephan Hobe et al. eds.,2009).	7, 27
T. Weir, <i>Complex liabilities, in 11 INTERNATIONAL ENCYCLOPEDIA OF COMPARATIVE LAW 32</i> (A. Tunc, ed. 1983).....	16, 18

c) Articles

Bin Cheng, <i>International Responsibility and Liability for Launch Activities</i> , 20 AIR & SPACE L. 297 (1995).....	17, 35
Carl Q. Christol, <i>International Liability for Damage caused by Space Objects</i> , 74 AM. J. INT'L L. 346 (1980).	17, 35
Craig Covault, <i>Space Control</i> , 166 AVIAT. WK. & SPACE TECH. 59 (2007)	28
Craig H. Allen, <i>Taking Narrow Channel Collision Prevention Seriously to More Effectively Manage Marine Transportation System Risk</i> , 41 J. MAR. L. & COM. 1 (2010).	32
David A. Koplow, <i>Asat-atisfaction: Customary International Law and the Regulation of Anti-Satellite Weapons</i> , 30 MICH. J. INT'L L. 1187 (2009).....	28
David A. Koplow, <i>Reverse Distinction: A U.S. Violation of the Law of Armed Conflict in Space</i> , 13 HARV. NAT'L SEC. J. 25 (2022)	7
David A. Koplow, <i>The Fault Is Not in Our Stars: Avoiding an Arms Race in Outer Space</i> , 59 HARV. INT'L L.J. 331 (2018).....	30
Eric Hagt, <i>The U.S. Satellite Shootdown: China's Response</i> , 3 BULL AT. SCI. 1 (2008).	

.....	28
Gabriel Lafferranderie, <i>Jurisdiction and Control of Space Objects and the Case of an International Intergovernmental Organization (ESA)</i> , 54 GER. J. AIR & SPACE L. 228 (2005).....	1
Harry H. Almond Jr., <i>Peaceful Purposes and Peaceful Activities in Outer Space</i> , 29 PROC. ON L. OUTER SPACE 1 (1986).....	28
Hitoshi Nasu, <i>Targeting a Satellite: Contrasting Considerations between the Jus ad Bellum and the Jus in Bello</i> , 99 INT’L L. STUD. SER. US NAVAL WAR COL. 131 (2022).	23
Isavella Maria Vasilogeorgi, <i>Military Uses of Outer Space: Legal Limitations, Contemporary Perspectives</i> , 39 J. SPACE L. 379 (2014).....	5
Ivan Vlastic, <i>The Space Treaty: A Preliminary Evaluation</i> , 55 CAL. L. REV. 507 (1967)	24
J-C Liou, NL Johnson & NM Hill, <i>Controlling the Growth of Future LEO Debris Populations with Active Debris Removal</i> , 5-6 ACTA ASTRONAUTICA 648 (2010).....	21
Jochen Pfeifer, <i>International Liability for Damage Caused by Space Objects</i> , 30 GER. J. AIR & SPACE L. 215 (1981).....	34
Julian Hermida, <i>Risk Management in Arianespace Launch Agreements</i> , 25 ANN. AIR & SPACE L. 143 (2000).....	31
Karl-Heinz Bockstiegel, <i>Legal Aspects of Space Activities by Private Enterprises: Introductory Report</i> , 19 PROC. ON L. OUTER SPACE 234 (1976).....	21
Kunihiko Tatsuzawa, <i>Definition of the Space Object</i> , 34 PROC. ON L. OUTER SPACE 357 (1991).....	34
Leopold, C. Vernon & Scafuri Allison L., <i>Orbital Space Flight under International law</i> , 19 FED. B.J. 227 (1959).....	34
Luke Punnakanta, <i>Space Torts: Applying Nuisance and Negligence to Orbital Debris</i> , 86 SOUTH. CALIF. LAW REV, 182 (2012).	16
M. Mejia-Kaiser, <i>Informal Regulations and Practices in the Field of Space Debris Mitigation</i> , 34 ANN. AIR & SPACE L. 21 (2009).....	26
Michael C. Mineiro, <i>Article IX’s Principle of Due Regard and International Consultations: An Assessment in Light of the European Draft Space Code-of-Conduct</i> , 53 PROC. ON INT’L INST. SPACE L. 674 (2010).	2, 4, 22, 24
Michael C. Mineiro, <i>FY-1C and USA-193 ASAT Intercepts: An Assessment of Legal Obligations under Article IX of the Outer Space Treaty</i> , 34 J. SPACE L. 321 (2008).4, 5	
Neta Palkovitz, <i>Dealing with the Regulatory Vacuum in LEO</i> , 59 PROC. ON INT’L INST. SPACE L. 419 (2016).....	8, 18
Ntorina Antoni & Federico Bergamasco, <i>To Orbit and Beyond: Present Risks and Liability Issues from the Launching of Small Satellites</i> , 57 PROC. ON INT’L INST. SPACE L. 75 (2014).	7, 9
Paul Dembling, <i>Cosmos 954: Space Treaties</i> , 6 J. SPACE L. 129 (1978).....	16

R. Lemkin, <i>Genocide as a crime under International Law</i> , 41 AJIL 145 (1947).....	28
Rahim Moloo, <i>A Comment on the Clean Hands Doctrine in International Law</i> , 2010 INTER ALIA 39 (2010)	18
Ram Jakhu, <i>Legal Issues Relating to the Global Public Interest in Outer Space</i> , 32 J. SPACE L. 31 (2006).	2
Riccardo Pisillo-Mazzeschi, <i>The Due Diligence Rule and the Nature of the International Responsibility of States</i> , 35 GERMAN Y.B. INT’L L. 9 (1992).....	3
Ricky J. Lee & Sarah L. Steele, <i>Military Use of Satellite Communications, Remote Sensing, and Global Positioning Systems in the War on Terror</i> , 79 J. AIR L. & COM. 69 (2014).....	26
Ricky J. Lee, <i>The Jus Ad Bellum in Spatialis: The Exact Content and Practical Implications of the Law on the Use of Force in Outer Space</i> , 29 J. SPACE L. 93 (2003).	5
Robert Rosenstock, <i>The ILC and State Responsibility</i> , 96 AM. J. INT’L L. 792 (2002)	35
Roman Boed, <i>State of Necessity as a Justification for Internationally Wrongful Conduct</i> , 3 YALE HUM. RTS. & DEV. L.J. 1 (2000).	12
Samuli Haataja & Afshin Akhtar-Khavari, <i>Stuxnet and International Law on the Use of Force: An Informational Approach</i> , 7 CAMB. INT’L L.J. 99 (2018).	2
Sarah M. Mountin, <i>The Legality and Implications of Intentional Interference with Commercial Communication Satellite Signals</i> , 90 INT’L L. STUD. SER. US NAVAL WAR COL. 101 (2014).	2
Stephen Gorove, <i>Definitional Issues Pertaining to Space Object</i> , 37 PROC. ON L. OUTER SPACE 87 (1994).....	33
Tom Ruys, <i>The Meaning of Force and the Boundaries of the Jus ad Bellum: Are Minimal Uses of Force Excluded from UN Charter Article 2(4)</i> , 108 AM. J. INT’L L. 159 (2014).....	4
V. Kayser, <i>Commercial Exploitation of Space: Developing Domestic Regulation</i> , XVII ANN. AIR & SPACE. L. 187 (1992).....	21
V. S. Vereshchetin, <i>Against the Use of Force in Outer Space and from Outer Space (Reply to Opponent)</i> , 27 PROC. ON L. OUTER SPACE 358 (1984).	1
Youri H. Kolossov, <i>Non-Use of Force III Outer Space</i> , 26 PROC. ON L. OUTER SPACE 205 (1983).....	1

V. INTERNATIONAL SITES

Air Sat One, <i>Aircraft Satcom Internet and Data Solutions - Air Sat One</i> (Nov. 20, 2022), https://www.airsatone.com/aircraft-internet-and-data-solutions	30
Annelie Klint Nilsson, <i>Phobos-Grunt and Yinghuo-1</i> (May 5, 2020), https://www.irf.se/en/irf-in-space/phobos-grunt-and-yinghuo-1/	7
Brian Weeden, <i>Dealing with Galaxy 15: Zombiesats and on-orbit servicing</i> (May 24,	

2010), https://thespacereview.com/article/1634/1	32
Cabinet Office, <i>Study Report of Sub-working Group on On-orbit Servicing, Government of Japan</i> (Apr. 29, 2022) https://www8.cao.go.jp/space/english/stm/study_report.pdf	31
<i>China's Views on Transparency and Confidence-Building Measures in Space Activities</i> (Nov. 20, 2022), https://www.un.org/disarmament/wp-content/uploads/2017/04/China-E-In-extenso.pdf	13
CNSA, <i>Space Object Registration Management Method</i> (Feb. 8, 2001), http://www.cnsa.gov.cn/n6758823/n6758839/c6796215/content.html	26
ESA Space Debris Office, <i>Automatic Collision Avoidance</i> (Apr. 23, 2021), https://www.esa.int/Space_Safety/Space_Debris/Automating_collision_avoidance ..	32
ESA, <i>Requirements on Space Debris Mitigation for Agency Projects</i> (Apr. 1, 2008), https://technology.esa.int/page/space-debris-mitigation	26
<i>Frequently Asked Questions</i> (Sept. 2, 2011), https://www.nasa.gov/news/debris_faq.html	23
GOST R., <i>Space Technology Items. General Requirements for Space Vehicles for Near-Earth Space Debris Mitigation</i> (Jan. 1, 2019), http://nd.gostinfo.ru/document/6431006.aspx	26
Himanshu Goenka, <i>Japanese Space Debris Collector, JAXA's Kounotori6, Fails To Deploy Junk-Fishing Net</i> (Feb. 6, 2017), https://www.ibtimes.com/japanese-space-debris-collector-jaxas-kounotori6-fails-deploy-junk-fishing-net-2487001	32
JAXA, <i>Space Debris Mitigation Mechanism in Japan</i> (Apr. 3, 2009), https://sma.jaxa.jp/TechDoc/	26
<i>Laws Applicable to Space Situational Awareness (SSA)</i> , https://spacelaws.com/articles/laws-relating-to-space-situational-awareness-ssa/	16
NASA, <i>NASA Spacecraft Conjunction Assessment and Collision Avoidance Best Practices Handbook (2020)</i> , https://nodis3.gsfc.nasa.gov/OCE_docs/OCE_50.pdf	3
NASA, <i>Process for Limiting Orbital Debris: NASA-STD-8719.14</i> (Nov. 5, 2021), https://standards.nasa.gov/standard/nasa/nasa-std-871914	26
Oliver Dörr, <i>Use of Force, Prohibition of</i> , Max Planck Encyclopedia of Public International Law, https://opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e427	6
Petr Bohacek, <i>Commentary on the Responsible Use of Lasers in Space</i> , https://front.un-arm.org/wp-content/uploads/2021/05/PULS_Submission-to-UNODA_reARE_S7536.pdf	4
Sanjeev Miglani & Krishna N. Das, <i>Modi Hails India as Military Space Power After Anti-Satellite Missile Test</i> , REUTERS (Mar. 27, 2019), https://www.reuters.com/article/us-india-satellite-idUSKCN1R80IA	24
Space Foundation Editorial Team, <i>Components of a Satellite</i> , https://www.spacefoundation.org/space_brief/satellite-components/	7

Space safety magazine, <i>SpaceX Failure, CRS-7 Mission Ends In Catastrophic Loss Of Vehicle</i> (June 28, 2015), https://www.spacesafetymagazine.com/news/spacex-failure-crs-7-mission-ends-in-catastrophic-loss-of-vehicle/	28
<i>Space Situational Awareness, SSI Issue Guide</i> (Nov. 16, 2022), https://spacesecurityindex.org/2020/09/space-situational-awareness/	16
UNIDIR, <i>Towards ASAT Test Guidelines</i> (May 17, 2018), https://unidir.org/publication/towards-asat-test-guidelines	23
UNOOSA maintains a “ <i>Compendium of Space Debris Mitigation Standards Adopted by States and International Organizations</i> ”, www.unoosa.org/oosa/en/ourwork/topics/space-debris/compendium.html	26

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Act on Space Activities (2018) (Fin.)	19
Basic Space Law (2008) (Japan).....	19
French Space Operation Act (2008) (Fr.).....	19
Ordinance of the Supreme Soviet of Ukraine on Space Activity (1996) (Ukr.)	34
Outer Space Act (2016) (Den.)	19
Space Development Promotion Act (2007) (S. Kor.)	34
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VII. MISCELLANEEES

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<i>Chapter III: The General Problem Underlying the Drafting of Part 2 of the Draft Articles</i> , [1982] 2(1) Y.B. Int’l L. Comm’n.	15
European Space Policy Institute (ESPI), <i>ESPI REPORT 76 IN-ORBIT SERVICES FULL REPORT 28</i> (ESPI ed., 2020)	31
NASA Safety Standard Guidelines And Assessment Procedures For Limiting Orbital Debris (1995)	31
U.S. Dep’t of Nat’l Sec. & Def., <i>Memorandum on Space Policy Directive-5—Cybersecurity Principles for Space Systems</i> , Presidential Memoranda (Sept. 4, 2020)	34
U.S. Government Orbital Debris Mitigation Standard Practices (2019).	31

QUESTIONS PRESENTED

- I. Whether Argylam violated international law by using Palver-3?
- II. Whether Argylam is liable for the destruction of Iriord-8?
- III. Whether Koligian violated international law by using the ASAT missile against Palver-2?
- IV. Whether Koligian is liable for the destruction of Palver-2?

STATEMENT OF FACTS

BACKGROUND

Argyliam is a State with a high-tech and flourishing space industry. Argyliam's Constitution explicitly states that the State shall stay outside international alliances and remain permanently neutral. Considering its small size, it attempted to fill the gap through technology. Under a philosophy that space could provide an immediate comparative advantage in Argyliam's military sector, significant government funding was directed towards research into dual-use space applications

Koligian is a space-faring State with a notable history of space exploration and exploitation. Since 2020 it has actively facilitated and encouraged the growth of its private sector in space activities.

Founded in 2028 and registered in Koligian, Charalg Inc. is a private company that provides SSA services. It provided information and data through a global network of fully automated, ground-based, and space-based sensors. Argyliam contracted with Charalg Inc. to obtain the information necessary for avoiding collisions of space objects. Charalg Inc. had built a considerable reputation for reliability, except on a single occasion, in December 2029, when its provision of incorrect data almost caused a satellite collision in LEO.

THE SET OF PALVER SYSTEM

On 1 January 2031, Argyliam launched three satellites with laser capabilities, named Palver-1 -2 and -3 ("Palver"), registered in Argyliam. The Foreign Minister of Argyliam stated that the deployment was mainly for experimental purposes to establish

proof of concept and initial components for a system of satellite-to-satellite communication by laser beam and would contribute to the defense of the State.

THE DISPUTE BETWEEN ARGYLIAM AND KASSOF

On 31 March 2031, the intelligence services of Argyliam informed the Minister of Foreign Affairs and the Minister of Defense that the satellite EVGA-1607 was “continuously spying on critical infrastructure facilities and military sites” in Argyliam. EVGA-1607 was registered in Kassof and had been placed in orbit at an altitude of 210 km above the surface of the Earth on 25 February 2031.

Kassof and Argyliam have a long history of confrontation, which ended when, by an international arbitral tribunal ruling in 2027, the two States settled their dispute over the delimitation of their (common) continental shelf.

On 1 April 2031, Argyliam Foreign Minister sent a Note Verbale to the Ambassador of Kassof, protesting against the “spying of his country” through EVGA-1607 and requiring immediate cessation and non-repetition in the future. Kassof declared that EVGA-1607 was a satellite deployed for purely commercial applications, and no espionage had ever occurred. Moreover, Kassof was firmly looking forward to friendly relations with Argyliam.

PALVER-3’S LASER CAUSED THE DESTRUCTION OF IRIORD-8

On 10 April 2031, without other evidence but the information provided by Argyliam itself, Argyliam’s Defense Minister ordered Palver-3 to emit a laser beam directed at EVGA-1607, intending to dazzle and blind it. This action was based on targeting data from Charalg Inc.

The data provided by Charalg Inc. was not completely accurate, resulting in a time delay. And the emitted laser beam by-passed EVGA-1607 completely and instead hit Iriord-8, which was registered in Koligian. The laser damaged an electronic component of Iriord-8, triggering a misfire of attitude control thrusters and pushing it into the atmosphere where it was completely burned up.

The destruction of Iriord-8 was a significant setback for Koligian's economy and critical infrastructure. The telecommunications services were greatly impacted, and many State services suffered considerable damage since Koligian had been particularly advanced in digitizing telecommunications through satellite utilization.

THE KOLIGIAN'S DIPLOMATIC NOTE OF PROTEST

On 20 April 2031, the Ambassador of Koligian delivered a diplomatic note of protest to Argyliam, in which the Government of Koligian accused Argyliam of the "unlawful weaponization of outer space" and "aggressive military" space activities, in particular, given "the dangers their existence entailed for the freedom of all States to explore and use outer space peacefully".

The Argyliam Foreign Minister replied by saying that "the responsibility for the unfortunate incident lies entirely with the Koligian company Charalg Inc. and the Palver system had been placed in orbit in accordance with international law to protect the independence, territorial integrity, and permanent neutrality of Argyliam".

THE GRAVE AND IMMINENT PERIL IMPOSED BY PALVER-2

On 10 May 2031, all ability to control Palver-2 was lost and could not be restored since it ceased responding to commands unexpectedly and without explanation.

However, according to official statements from the Argyliam Ministry of Defense, the laser beam remained active, and there was a possibility of spontaneous activation. According to the same sources, the chances of this happening “were less than 3%”. In the meantime, the uncontrolled Palver-2 was drifting toward a densely populated orbit with 150 functioning satellites.

Most of these satellites were in a constellation operated by an international consortium to provide global Internet services, including for aircraft and maritime use. The individual satellites were registered in several states, including five in Koligian. Palver-2 was expected to enter this orbit on 13 May 2031.

On the morning of 11 May 2031, four States, including Koligian, asked Argyliam to take immediate measures to manage Palver-2. Argyliam declared that it would immediately send a SSV to re-boost Palver-2 to gain the necessary altitude so that it would not interfere with neighboring satellites. The SSV was expected to rendezvous with Palver-2 and initiated the re-boost operation within 24 hours of launch. However, the SSV had not yet been launched and tested in space.

KOLIGIAN’S SOLUTION OF USING ASAT MISSILE

In this circumstance, Koligian launched an ASAT missile, which successfully hit Palver-2. The satellite, including its laser system, was destroyed. The debris generated by this strike accumulated in a part of the orbit without any satellites operating before the debris re-entered the atmosphere, where it was completely burned up. The entire Palver system required all three individual lasers to work effectively. Without Palver-2, it would take several years for Argyliam to restore the system.

Argyliam and Koligian entered into diplomatic consultations, the results of which proved inconclusive. Argyliam initiated these proceedings by Application to the International Court of Justice. Koligian accepted the jurisdiction of the Court, and the parties submitted Agreed Statement of Facts.

THE RELEVANT TREATIES

Argyliam and Koligian are Parties to the United Nations Charter, the 1969 Vienna Convention on the Law of Treaties, and the five United Nations treaties on outer space.

SUMMARY OF ARGUMENTS

I. THE USE OF PALVER-3 VIOLATED INTERNATIONAL LAW.

A. Argylia violated Article VIII of the *Outer Space Treaty* by intervening in Koligian's jurisdiction and control over Iriord-8. In addition, Argylia was contrary to Article IX for failing to pay due regard and undertake international consultations.

B. By using Palver-3, Argylia violated Article 2(4) of the *United Nations Charter* since the gravity and hostile intent of this act constituted the use of force and was inconsistent with the Purposes of the United Nations.

C. Argylia cannot invoke necessity to preclude the wrongfulness of its act, because the use of Palver-3 was not the only way for Argylia to safeguard an essential interest against a grave and imminent peril.

II. ARGYLIAM IS LIABLE FOR THE DESTRUCTION OF IRIORD-8.

A. Argylia is liable under Article III of the *Liability Convention*, and the reasons are as follows. First, the destruction of Iriord-8 could be covered. Second, Argylia was acting at fault. Third, the destruction of Iriord-8 was due to Argylia's fault.

B. Argylia is liable under Article VII of the *Outer Space Treaty*. Under Article VII, causation and fault are needed to establish international liability. Argylia is liable under Article VII since the two elements were satisfied.

C. Argylia is liable under general international law. Under general international law, the responsible State is liable for damages caused by its internationally wrongful act. Argylia's use of Palver-3 constituted an internationally wrongful act and caused the destruction of Iriord-8. Thus, Argylia is liable under general international law.

D. Koligian did not come to the Court with unclean hands since it did not breach

the obligation of supervision under Article VI of the *Outer Space Treaty*.

III. KOLIGIAN'S USE OF ASAT MISSILE AGAINST PALVER-2 WAS NOT CONTRARY TO INTERNATIONAL LAW.

A. Koligian did not violate Article VIII of the *Outer Space Treaty* since it did not intervene in Argyliam's jurisdiction and control over Palver-2. Besides, Koligian complied with Article IX of the *Outer Space Treaty* by fulfilling the obligation of international consultation, preventing harmful contamination and paying due regard.

B. Koligian's use of the ASAT missile against Palver-2 complied with Article 2(4) of the *United Nations Charter*. Considering the active debris removal of the space debris Palver-2 in specific tense circumstances, Koligian acted without hostile intent and did not violate Article 2(4) of the *United Nations Charter*.

C. In any event, the wrongfulness of the act could be precluded by invoking necessity since using the ASAT missile was the only way for Koligian to safeguard its essential interest against a grave and imminent peril.

IV. KOLIGIAN IS NOT LIABLE FOR THE DESTRUCTION OF PALVER-2.

A. Since the ASAT missile was not a space object and Koligian was not at fault, Koligian is not liable under Article III of the *Liability Convention*.

B. Under Article VII of the *Outer Space Treaty*, causation and fault are required to establish international liability. For the same reasons above, Koligian is neither liable under this Article.

C. Koligian is not liable under general international law since it did not breach any international obligations.

ARGUMENTS

I. THE USE OF PALVER-3 VIOLATED INTERNATIONAL LAW.

The use of Palver-3 by Argyliam violated relevant provisions of the *OST* [A] and Article 2(4) of the *U.N. Charter*. [B] In addition, the wrongfulness of the act cannot be precluded by necessity. [C]

A. Argyliam violated the *OST* by using Palver-3.

By using Palver-3, Argyliam violated Article VIII of the *OST* for intervening in Koligian's jurisdiction and control over Iriord-8 [1] and violated Article IX of the *OST* for failing to pay due regard and take international consultations. [2]

1. Argyliam violated Article VIII of the *OST*.

Article VIII of the *OST* demonstrates that the State of registry retains jurisdiction and control over their space objects.¹ Combined as one concept,² the jurisdiction and control of a State will be infringed if other States interfere with any technical arrangements necessary to fulfill its mission in outer space.³

In casu, Koligian registered Iriord-8,⁴ hence retained jurisdiction and control over it. The laser beam emitted by Palver-3 damaged and finally caused the destruction of Iriord-8,⁵ rendering it incapable of fulfilling the mission to offer telecommunication

¹ Article VIII, *OST*.

² Gabriel Lafferranderie, *Jurisdiction and Control of Space Objects and the Case of an International Intergovernmental Organization (ESA)*, 54 GER. J. AIR & SPACE L. 228, 231 (2005).

³ MANFRED LACHS, *THE LAW OF OUTER SPACE: AN EXPERIENCE IN CONTEMPORARY LAW-MAKING* 66 (1972).

⁴ *Compromis*, ¶9.

⁵ *Id.*

services.⁶ Consequently, Argylia violated Article VIII of the *OST* by intervening in Koligian's jurisdiction and control over Iriord-8.

2. Argylia violated Article IX of the *OST*.

Argylia violated Article IX of the *OST* since it breached the principle of “due regard” [a] and the obligation of undertaking international consultations. [b]

a. Argylia breached the principle of “due regard”.

Article IX of the *OST* stipulates that States shall pay due regard to the corresponding interests of all other States when conducting their activities in outer space.⁷ “Corresponding interest” refers to the legal rights of other States in the peaceful use and exploration of outer space.⁸ States must prove beyond reasonable doubt that every possible step is undertaken to avoid harm.⁹

The use of laser beams in outer space could cause potential damage to other space systems.¹⁰ Further, LEO is one of the most congested orbits,¹¹ in which operations are

⁶ *Compromis*, ¶10; Sarah M. Mountin, *The Legality and Implications of Intentional Interference with Commercial Communication Satellite Signals*, 90 INT'L L. STUD. SER. US NAVAL WAR COL. 101, 124 (2014).

⁷ Article IX, *OST*.

⁸ Michael C. Mineiro, *Article IX's Principle of Due Regard and International Consultations: An Assessment in Light of the European Draft Space Code-of-Conduct*, 53 PROC. ON INT'L INST. SPACE L. 674, 677 (2010); Ram Jakhu, *Legal Issues Relating to the Global Public Interest in Outer Space*, 32 J. SPACE L. 31, 47 (2006).

⁹ Sergio Marchisio, *Article IX*, in 1 COLOGNE COMMENTARY ON SPACE LAW 169, 176 (Stephan Hobe et al. eds., 2009); *Pulp Mills on the River Uruguay (Arg. v. Uru.)*, Judgment, 2010 I.C.J. 14, 56 (Apr. 20).

¹⁰ U.N. Secretary-General, *Current Developments in Science and Technology and Their Potential Impact on International Security and Disarmament Efforts*, ¶43, U.N. Doc. A/76/182 (July 19, 2021) [*Current Developments*].

¹¹ Neta Palkovitz, *Dealing with the Regulatory Vacuum in LEO*, 59 PROC. ON INT'L INST. SPACE L. 419, 420 (2016).

inherently high risk.¹²

According to Guideline B.10 of the *2019 LTS Guidelines*, before using lasers, States should take quantitative assessment of the power of laser radiation and the risk of failure or damage to space objects.¹³ Moreover, the risk can be estimated with reliable data.¹⁴ To remove data bias, NASA suggested States shall validate all the SSA data before forming the scheme of operations.¹⁵ Though non-binding, these technical standards could serve as a way to measure whether States paid due regard.¹⁶

In casu, Argyliam emitted a laser in LEO.¹⁷ However, Argyliam did not take any assessment to prevent possible damage to other satellites in LEO.¹⁸ In addition, Argyliam failed to validate the data provided by Charalg Inc., who once almost caused an accident by sending incorrect data.¹⁹ Consequently, Argyliam breached the principle of due regard.

¹² Ntorina Antoni & Federico Bergamasco, *To Orbit and Beyond: Present Risks and Liability Issues from the Launching of Small Satellites*, 57 PROC. ON INT'L INST. SPACE L. 75, 75 (2014); STEPHEN GOROVE, DEVELOPMENTS IN SPACE LAW: ISSUES AND POLICIES 128 (1991).

¹³ U.N. Comm. on the Peaceful Use of Outer Space, *Guidelines for the Long-term Sustainability of Outer Space Activities of the Committee on the Peaceful Uses of Outer Space*, at 66, U.N. Doc. A/74/20 (June 12-21, 2019) [*2019 LTS Guidelines*].

¹⁴ *Current Developments*, ¶43.

¹⁵ NASA, *NASA Spacecraft Conjunction Assessment and Collision Avoidance Best Practices Handbook (2020)* (Nov. 21, 2022), https://nodis3.gsfc.nasa.gov/OCE_docs/OCE_50.pdf.

¹⁶ Riccardo Pisillo-Mazzeschi, *The Due Diligence Rule and the Nature of the International Responsibility of States*, 35 GERMAN Y.B. INT'L L. 9, 45 (1992).

¹⁷ *Compromis*, ¶9.

¹⁸ *Id.*

¹⁹ *Compromis*, ¶3.

b. Argylia violated the obligation of undertaking international consultations.

Article IX of the *OST* demonstrates that a State shall “undertake appropriate international consultations”²⁰ when it has reason to believe that the planned activity would cause potentially harmful interference with the activities of other States in the peaceful exploration and use of outer space.²¹

Argylia breached the obligation of undertaking international consultations since it had reason to believe that the laser emission would cause potentially harmful interference. [i] However, it did not take appropriate international consultations. [ii]

i. Argylia had reason to believe that the laser emission would cause potentially harmful interference.

“Having reason to believe” should be interpreted as having knowledge that proves a planned activity would cause potentially harmful interference.²² “Harmful interference” in outer space involves interference with the freedom of physical operations in outer space.²³

The use of laser beams in outer space can interfere with the freedom of passing satellites’ physical operations.²⁴ Besides, considering the high risk of operating in

²⁰ Article IX, *OST*.

²¹ Mineiro, *supra* note 8, at 678.

²² Michael C. Mineiro, *FY-1C and USA-193 ASAT Intercepts: An Assessment of Legal Obligations under Article IX of the Outer Space Treaty*, 34 *J. SPACE L.* 321, 336 (2008).

²³ Mineiro, *supra* note 8, at 678.

²⁴ Petr Bohacek, *Commentary on the Responsible Use of Lasers in Space* (Nov. 20, 2022), https://front.un-arm.org/wp-content/uploads/2021/05/PULS_Submission-to-UNODA_reARES7536.pdf.

LEO,²⁵ laser emission in LEO is globally regarded as an activity with potentially harmful interference, embodied in the report of *Responsible Behaviours*.²⁶

In casu, as a State with a flourishing space industry,²⁷ Argyliam should have known the aforementioned interference with passing space objects by Palver-3's laser in LEO. Hence, Argyliam was obligated to undertake appropriate international consultations with potentially affected States,²⁸ including Koligian, whose satellites in LEO could be passed by the laser.

ii. Argyliam did not take appropriate international consultations.

The appropriate international consultations include, minimally, contacting the potentially affected States and providing them with information sufficient to prevent potentially harmful interference.²⁹

Nevertheless, Argyliam did not contact or provide any information for Koligian and other potentially affected States.³⁰ The only action taken by Argyliam was to issue a Note Verbale to Kassof, irrelevant to laser emission.³¹ Thus, Argyliam did not fulfill the obligation to take appropriate international consultations.

In conclusion, Argyliam violated Article IX of the *OST* for failing to pay due

²⁵ Ntorina Antoni & Federico Bergamasco, *supra* note 12.

²⁶ U.N. Secretary-General, *Reducing space threats through norms, rules and principles of responsible behaviours*, at 9, U.N. Doc. A/76/77 (July 13, 2021) [*Responsible Behaviours*].

²⁷ *Compromis*, ¶1.

²⁸ *Pulp Mills*, *supra* note 9, at 68.

²⁹ *Mineiro*, *supra* note 22, at 336.

³⁰ *Compromis*, ¶8.

³¹ *Compromis*, ¶7.

regard and undertake appropriate international consultations.

B. Argyliam violated Article 2(4) of the *U.N. Charter*.

Article 2(4) of the *U.N. Charter* declares that States must refrain from the use of force in international relations.³² The prohibition of the use of force is equally applicable to any sphere of international activities,³³ including outer space.³⁴

The Respondent submits that Argyliam violated the obligation by emitting a laser beam since it qualified as the use of force [1] and was inconsistent with the Purposes of the United Nations. [2]

1. The use of Palver-3 qualified as the use of force.

“Force” under Article 2(4) of the *U.N. Charter* refers solely to armed force.³⁵ Furthermore, to constitute the prohibited armed force, the gravity of the act and hostile intent are required.³⁶

The Respondent submits that the use of Palver-3 constituted the prohibited armed force since its gravity reached the threshold of armed force [a] and Argyliam was acting

³² Article 2(4), *U.N. Charter*.

³³ Youri H. Kolosoy, *Non-Use of Force III Outer Space*, 26 PROC. ON L. OUTER SPACE 205, 206 (1983).

³⁴ V. S. Vereshchetin, *Against the Use of Force in Outer Space and from Outer Space (Reply to Opponent)*, 27 PROC. ON L. OUTER SPACE 358, 359 (1984).

³⁵ Oliver Dörr, *Use of Force, Prohibition of*, Max Planck Encyclopedia of Public International Law (Nov. 20, 2022), <https://opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e427>; YORAM DINSTEIN, WAR, AGGRESSION AND SELF-DEFENCE 86 (2005); Article 31, *VCLT*.

³⁶ OLIVIER CORTEN, THE LAW AGAINST WAR: THE PROHIBITION ON THE USE OF FORCE IN CONTEMPORARY INTERNATIONAL LAW 67 (2010); CHRISTIAN HENDERSON, THE USE OF FORCE AND INTERNATIONAL LAW 79 (2018); *Corfu Channel (U.K. v. Alb.)*, Judgment, 1949 I.C.J. 4, 38 (Apr. 9); *Fisheries Jurisdiction (Spain v. Can.)*, Judgment, 1998 I.C.J. 432, 466 (Dec.4); *Aegean Sea Continental Shelf (Greece v. Tur.)*, Judgment, 1978 I.C.J. 3, 29 (Dec. 19).

with hostile intent. [b]

a. The gravity of using Palver-3 reached the threshold of armed force.

The prohibition of armed force does not refer to specific weapons.³⁷ Further, the gravity of armed force depends on its capacity to destroy lives or property.³⁸ Thus, using any instrument capable of causing physical destruction would be covered.³⁹

According to the *2021 U.N. Secretary-General's report*, the laser beam could be used as a non-kinetic weapon to attack satellites.⁴⁰ Due to the sensitivity and importance of the electronic components on a satellite,⁴¹ merely a 40-watt laser could destroy them and permanently damage the satellite,⁴² often leading to the failure of the whole mission.⁴³

Besides, when measuring the capacity of causing physical destruction, the soon and close consequences shall be taken into account.⁴⁴ A satellite's value is derived from

³⁷ *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, 1996 I.C.J. 226, 244 (July 8).

³⁸ IAN BROWNLIE, *INTERNATIONAL LAW AND THE USE OF FORCE BY STATES* 362 (1963); Samuli Haataja & Afshin Akhtar-Khavari, *Stuxnet and International Law on the Use of Force: An Informational Approach*, 7 *CAMB. INT'L L.J.* 99, 107 (2018).

³⁹ HENDERSON, *supra* note 36, at 79, 80.

⁴⁰ *Current Developments*, ¶43; David A. Koplow, *Reverse Distinction: A U.S. Violation of the Law of Armed Conflict in Space*, 13 *HARV. NAT'L SEC. J.* 25, 68 (2022).

⁴¹ Space Foundation Editorial Team, *Components of a Satellite*, https://www.spacefoundation.org/space_brief/satellite-components/

⁴² *Current Developments*, ¶43.

⁴³ Annelie Klint Nilsson, *Phobos-Grunt and Yinghuo-1* (May 5, 2020), <https://www.irf.se/en/irf-in-space/phobos-grunt-and-yinghuo-1/>.

⁴⁴ MICHAEL N. SCHMITT, *TALLINN MANUAL 2.0 ON THE INTERNATIONAL LAW APPLICABLE TO CYBER OPERATIONS* 334 (2017).

its function in enabling or assisting terrestrial activities.⁴⁵ Thus, the terrestrial consequences arising from the damage to the satellite should be considered.⁴⁶

In casu, Palver-3's laser damaged an electronic component of Iriord-8,⁴⁷ resulting in its burnout.⁴⁸ Furthermore, Iriord-8's destruction was a significant setback for Koligian's critical infrastructure,⁴⁹ with considerable damage to many State services,⁵⁰ whose consequences even overlap normal physical destruction.⁵¹ Hence, the laser beam emitted by Palver-3 was capable of causing physical destruction.

b. Argyliam was acting with hostile intent.

The "hostile intent" indicates a State's intention to compel another State to do or refrain from doing something.⁵² Hostile intent is obviously present when a State intends to carry out attacks that may result in loss of lives or damage to property.⁵³

In casu, despite Kassof's willingness to develop friendly relations with

⁴⁵ *Responsible Behaviours*, *supra* note 26, at 26, 55.

⁴⁶ Hitoshi Nasu, *Targeting a Satellite: Contrasting Considerations between the Jus ad Bellum and the Jus in Bello*, 99 INT'L L. STUD. SER. U.S. NAVAL WAR COL. 142, 158 (2022).

⁴⁷ *Compromis*, ¶9.

⁴⁸ *Id.*

⁴⁹ *Compromis*, ¶10.

⁵⁰ *Id.*

⁵¹ Sarah M. Mountin, *supra* note 6, at 178.

⁵² CORTEN, *supra* note 36, at 67; M. WELL, IRAQ AND KUWAIT: THE HOSTILITIES AND THEIR AFTERMATH 725 (1993); Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v. Nicar.), 2015 I.C.J. 665, 823 (Dec. 16) (separate opinion by Robinson, J.).

⁵³ Tom Ruys, *The Meaning of Force and the Boundaries of the Jus ad Bellum: Are Minimal Uses of Force Excluded from UN Charter Article 2(4)*, 108 AM. J. INT'L L. 159, 173 (2014).

Argyliam,⁵⁴ Argyliam chose to blind EVGA-1607,⁵⁵ a purely commercial satellite.⁵⁶ Besides, as submitted above,⁵⁷ the laser was capable of causing permanent damage to the satellite. Thus, Argyliam intended to compel Kassof from normal commercial activities, and the hostile intent is obviously presented here.

In conclusion, the use of Palver-3 constitutes the use of force.

2. The use of Palver-3 was inconsistent with the Purposes of the United Nations.

Article 2(4) of the *U.N. Charter* prohibits the use of force “inconsistent with the Purposes of the United Nations”.⁵⁸ Notably, one purpose is to “maintain peace and security”,⁵⁹ preventing the unilateral use of armed force.⁶⁰ Thus, any form of use of force is contrary to the Purposes of the United Nations⁶¹ if it does not fall under the accepted exceptions,⁶² namely the right to self-defense and enforcement actions under Chapter VII of the *U.N. Charter*.⁶³

⁵⁴ *Compromis*, ¶7.

⁵⁵ *Compromis*, ¶8.

⁵⁶ *Compromis*, ¶7.

⁵⁷ *Supra* Argument I(B)(1)(a)(i).

⁵⁸ Article 2(4), *U.N. Charter*.

⁵⁹ Article 1(1), *U.N. Charter*.

⁶⁰ Dörr, *supra* note 35.

⁶¹ Ricky J. Lee, *The Jus Ad Bellum in Spatialis: The Exact Content and Practical Implications of the Law on the Use of Force in Outer Space*, 29 J. SPACE L. 93, 104 (2003).

⁶² Isavella Maria Vasilogeorgi, *Military Uses of Outer Space: Legal Limitations, Contemporary Perspectives*, 39 J. SPACE L. 379, 388 (2014).

⁶³ Chapter VII, *U.N. Charter*.

As submitted before,⁶⁴ Argyliam's act constitutes the use of force. Since this act was not a response to an armed attack⁶⁵ or mandated by Security Council, it did not fall under the accepted exceptions. Therefore, the use of Palver-3 was inconsistent with the Purposes of the United Nations and violated Article 2(4) of the *U.N. Charter*.

C. The wrongfulness of Argyliam's use of Palver-3 cannot be precluded.

Argyliam's use of Palver-3 constitutes an internationally wrongful act, [1] and the wrongfulness of the act cannot be precluded by invoking necessity. [2]

1. The use of Palver-3 constituted an internationally wrongful act.

According to Article 2 of the *ARSIWA*,⁶⁶ an internationally wrongful act is a breach of international law attributable to the State,⁶⁷ which this Court also recognized on several occasions.⁶⁸ Article 4 of the *ARSIWA* stipulates that the conduct of the State organ is attributable to the State.⁶⁹ "State organ" covers all individuals constituting the organization of the State and acting on its behalf.⁷⁰

In casu, the laser emission was ordered by the Defense Minister of Argyliam,⁷¹

⁶⁴ *Supra* Argument I(B)(1).

⁶⁵ Article 51, *U.N. Charter*; *Oil Platforms (Iran v. U.S.)*, Judgment, 2003 I.C.J. 161, 186 (Nov. 6).

⁶⁶ Articles on Responsibility of States for Internationally Wrongful Acts, Int'l Law Comm'n, 53rd Sess., Article 25, U.N. Doc. A/56/83 (2001) [*ARSIWA*].

⁶⁷ Article 2, *ARSIWA*.

⁶⁸ *United States Diplomatic and Consular Staff in Tehran (U.S. v. Iran)*, Judgment, 1980 I.C.J. 3, 29 (May 24); *Nicaragua*, *supra* note 52, at 118; *Gabčíkovo-Nagymaros Project (Hun. v. Slov.)*, Judgment, 1997 I.C.J. 7, 54 (Sept. 25).

⁶⁹ Article 4, *ARSIWA*.

⁷⁰ Int'l Law. Comm'n, Rep. on the Work of Its 53rd Sess., U.N. Doc. A/56/10, 40 (2001).

⁷¹ *Compromis*, ¶8.

who acts on behalf of the State. Thus, it is attributable to Argylia. Besides, as previously submitted,⁷² Argylia's use of Palver-3 breached obligations under Article VIII and Article IX of the *OST* and Article 2(4) of the *U.N. Charter*. Hence, the use of Palver-3 constituted an internationally wrongful act.

2. The wrongfulness of the act cannot be precluded by necessity.

Affirmed by this Court as customary international law in *Gabčíkovo-Nagymaros Project case*,⁷³ necessity can be used as a ground for precluding the wrongfulness of an internationally wrongful act.⁷⁴ It can be invoked when the act in question is the only way for the State to safeguard an essential interest against a grave and imminent peril.⁷⁵

Argylia cannot invoke necessity since its essential interest did not face a grave and imminent peril, [a] and emitting a laser was not the only way to safeguard its essential interest. [b]

a. Argylia's essential interest did not face a grave and imminent peril.

The peril faced must be grave and imminent before taking steps to protect the interest.⁷⁶ Moreover, the peril has to be objectively established and not merely apprehended as possible.⁷⁷ Accordingly, this Court noted that the invoking State could

⁷² *Supra* Argument I(B); *Supra* Argument I(A).

⁷³ *Gabčíkovo-Nagymaros*, *supra* note 68, at 41.

⁷⁴ Fisheries Jurisdiction, *supra* note 36, at 466; *M/V Saiga (No.2) (St. Vincent v. Guinea)*, Case No.2, Judgment of July 1, 1999, ITLOS Rep. 10, 55; *LG&E Energy Corp. et al. v. Argentine Republic*, ICSID Case No. ARB/02/1, Decision on Liability, ¶ 256 (Oct. 3, 2006), 21 ICSID Rev. 203, 265.

⁷⁵ Int'l Law. Comm'n, Rep., *supra* note 70, at 40.

⁷⁶ Roman Boed, *State of Necessity as a Justification for Internationally Wrongful Conduct*, 3 YALE HUM. RTS. & DEV. L.J. 1, 16 (2000).

⁷⁷ Int'l Law. Comm'n, Rep., *supra* note 70, at 40.

not be the sole judge of the necessity.⁷⁸

In casu, except for the so-called “cross-checked information” contended by Argyliaam,⁷⁹ there was no other evidence showing that Kassof was spying on it.⁸⁰ In practice, space systems are largely dual-use, making it difficult for even the major space powers to determine the intent behind a particular behavior.⁸¹

Thus, Argyliaam was the sole judge of the necessity. Given Kassof’s denial⁸² and the difficulty of verification in outer space,⁸³ the peril cannot be objectively established.

b. Emitting a laser was not the only way to safeguard Argyliaam’s essential interest.

The plea is excluded if other lawful means are available, even if they are more costly or inconvenient.⁸⁴ Besides, the “way” here is not limited to unilateral actions but also comprises cooperative actions with other States or international organizations.⁸⁵

According to *TCBMs* provided by Secretary-General, there are adequate mechanisms contributing to clarifying ambiguous situations, such as multilateral diplomatic exchanges and other channels.⁸⁶ In practice, these mechanisms are also

⁷⁸ Gabčíkovo-Nagymaros, *supra* note 68, at 42, 43.

⁷⁹ *Compromis*, ¶6.

⁸⁰ *Compromis*, ¶7.

⁸¹ *Responsible Behaviours*, *supra* note 26, at 40.

⁸² *Compromis*, ¶7.

⁸³ U.N. Secretary-General, *Rep. of the Group of Governmental Experts on further practical measures for the prevention of an arms race in outer space*, U.N. Doc. A/74/77, ¶39 (Apr. 9 2019).

⁸⁴ Gabčíkovo-Nagymaros, *supra* note 68, at 41, 42.

⁸⁵ Int’l Law. Comm’n, Rep., *supra* note 70, at 83.

⁸⁶ U.N. Secretary-General, *Rep. of the Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities*, U.N. Doc.

supported by numerous States,⁸⁷ including the U.S.,⁸⁸ Russia,⁸⁹ and China.⁹⁰

In casu, Kassof replied actively and expressed friendly willingness.⁹¹ Given the availability of adequate mechanisms provided by *TCBMs*, Argylam could continue bilateral or multilateral consultations with Kassof and the international community, exploring further solutions. Therefore, emitting a laser was not the only way for Argylam and Argylam cannot invoke necessity to preclude the wrongfulness.

To conclude, Argylam's use of Palver-3 violated international law, and the act's wrongfulness cannot be precluded by necessity.

II. ARGYLIAM IS LIABLE FOR THE DESTRUCTION OF IRIORD-8.

The Respondent submits that Argylam is liable for the loss of Iriord-8 under Article III of the *LIAB*, [A] Article VII of the *OST* [B] and general international law, [C] besides, Koligian did not come to this Court with unclean hands. [D]

A/68/189 (July 29, 2013) [*TCBMs*].

⁸⁷ *Responsible Behaviours*, *supra* note 26, at 10.

⁸⁸ U.N. Comm. on the Peaceful Uses of Outer Space, Recommendations of the Group of Governmental Experts on Transparency and Confidence-building Measures in Outer Space Activities: views of States members of the Committee on the Peaceful Uses of Outer Space, at 4, U.N. Doc. A/AC.105/1080 (Nov. 7, 2014).

⁸⁹ U.N. Comm. on the Peaceful Uses of Outer Space, Recommendations of the Group of Governmental Experts on Transparency and Confidence-building Measures in Outer Space Activities: views of States members of the Committee on the Peaceful Uses of Outer Space, at 2, U.N. Doc. A/AC.105/1080/Add.2 (Mar.13, 2015).

⁹⁰ *China's Views on Transparency and Confidence-Building Measures in Space Activities* (Nov. 20, 2022), <https://www.un.org/disarmament/wp-content/uploads/2017/04/China-E-In-extenso.pdf>.

⁹¹ *Compromis*, ¶7.

A. Argylia is liable for the destruction of Iriord-8 under Article III of the *LIAB*.

Article III of the *LIAB* establishes fault-based liability for damage caused in outer space.⁹² Argylia is liable for the destruction of Iriord-8 for the following reasons: first, the damage was covered by the *LIAB*; [1] second, Argylia was at fault; [2] third, the destruction of Iriord-8 was due to the fault of Argylia. [3]

1. The damage of Iriord-8 can be covered by the *LIAB*.

The “damage” in the *LIAB* involves loss of or damage to the property of States.⁹³ Supported by the *travaux préparatoires*, the damage caused by a space object does not require collision between the two space objects or components.⁹⁴ Thus, if one space object is damaged by laser beams released from another space object, the damage could be covered by the *LIAB*.⁹⁵

In casu, the laser beam was emitted by Palver-3.⁹⁶ Hence, even if there were no collisions, the *LIAB* would cover the damage resulting from the laser beam.

2. Argylia was at fault.

No definition of “fault” exists in the *LIAB*.⁹⁷ Turning to general international

⁹² Article 3, *LIAB*.

⁹³ Article 1, *LIAB*.

⁹⁴ Article 32, *VCLT*; U.N. GAOR, 9th Sess., at 52, U.N. Doc. A/AC.105/C.2/SR.94 (July. 3, 1968) (French, Canadian & Italian delegate); BIN CHENG, *STUDIES IN INTERNATIONAL SPACE LAW* 331 (1998).

⁹⁵ BIN CHENG, *supra* note 94, at 331.

⁹⁶ *Compromis*, ¶8.

⁹⁷ CARL Q CHRISTOL, *THE MODERN INTERNATIONAL LAW OF OUTER SPACE* 117 (1982).

law,⁹⁸ fault denotes the failure to adhere to obligations imposed by law.⁹⁹ As submitted above,¹⁰⁰ by emitting a laser beam, Argyliam has violated Article 2(4) of the *U.N. Charter*, Article VIII, and Article IX of the *OST*, and thus was at fault.

3. The destruction of Iriord-8 was due to Argyliam's fault.

Pursuant to Article III of the *LIAB*, causation is required between the fault and damage.¹⁰¹ And the test of causation is proximate causation.¹⁰² To satisfy the proximate causation, the damage would not have occurred “but for” the initial action¹⁰³ [a] and it must be reasonably foreseeable.¹⁰⁴ [b]

a. The “but for” test is satisfied.

The proximate causation requires that the destruction of Iriord-8 would not have occurred but for the laser emission.¹⁰⁵

⁹⁸ Article 31, *VCLT*; *Chapter III: The General Problem Underlying the Drafting of Part 2 of the Draft Articles*, [1982] 2(1) Y.B. INT'L L. COMM'N 30, ¶54.

⁹⁹ L. J. Smith & A. Kerrest, *Article III: LIAB*, in 2 COLOGNE COMMENTARY ON SPACE LAW 131, 132 (Stephan Hobe et al. eds., 2009); *Chapter III: Doctrine Section 1: Writings of Specialists*, [1978] 2(1) Y.B. INT'L L. COMM'N 188, 195, ¶499.

¹⁰⁰ *Supra* Argument I(A)(B).

¹⁰¹ Article III, *LIAB*.

¹⁰² CHRISTOL, *supra* note 97, at 102; Angola Cases (Port. v. Ger.), 2 R.I.A.A. 1011, 1013 (Perm. Ct. Arb. 1928, 1930); Paul Dembling, *Cosmos 954: Space Treaties*, 6 J. SPACE L. 129, 135 (1978).

¹⁰³ H.L.A. HART & T. HONORE, CAUSATION IN THE LAW 114, 121 (1985) [hereinafter HART].

¹⁰⁴ Administrative Decision No. II (U.S. v. Ger.), 7 R.I.A.A. 23, 23 (Perm. Ct. Arb. 1930); War-Risk Insurance Premium Claims Arbitration, (U.S. v. Ger.) 7 R.I.A.A. 44, 55 (Perm. Ct. Arb. 1923); Life Insurance Claims (Ger. v. U.S.), 4 R.I.A.A. 121, 121 (Perm. Ct. Arb. 1924).

¹⁰⁵ HART, *supra* note 103, at 114, 121.

As previously elaborated,¹⁰⁶ Argylam was at fault for emitting a laser beam, which was the initial act of the damage. The laser damaged an electronic component of Iriord-8, triggering a misfire of attitude control thrusters and pushing it into the atmosphere, where it was completely incinerated.¹⁰⁷ Without emitting a laser beam, Iriord-8 would not have been destroyed. Hence, the “but for” test is satisfied.

b. The damage must be reasonably foreseeable.

Proximate causation requires the general class of harm to be foreseeable.¹⁰⁸ Due to the ultra-hazardous nature of space activities,¹⁰⁹ the damage is considered reasonably foreseeable if the risk of harm, however slight, was inherently established in the act.¹¹⁰

No single SSA provider can fully understand the space environment,¹¹¹ especially given the challenge posed by the sheer number of space objects.¹¹² Additionally, the precision of SSA data varies depending on the nature and purpose of activities.¹¹³

¹⁰⁶ *Supra* Argument I(A).

¹⁰⁷ *Compromis*, ¶9.

¹⁰⁸ Luke Punnakanta, *Space Torts: Applying Nuisance and Negligence to Orbital Debris*, 86 SOUTH. CALIF. LAW REV, 182, 183 (2012).

¹⁰⁹ MANFRED LACHS, *supra* note 3, at 115; Int’l Law. Comm’n, Rep, *supra* note 70, at 149.

¹¹⁰ Special Rapporteur on International Liability, *Third Report of the Special Rapporteur*, Int’l. Law Comm., at 58, U.N. Doc DA/CN.4/360 (Jun. 28, 1982) (by Robert Quentin-Baxter).

¹¹¹ *Space Situational Awareness, SSI Issue Guide* (Nov. 16, 2022), <https://spacesecurityindex.org/2020/09/space-situational-awareness/>.

¹¹² UNCOPUOS, *Rep. of the Legal Subcommittee on its Sixty-first Session*, U.N. Doc. A/AC.105/1260, 23 (Apr. 19, 2022).

¹¹³ *Laws Applicable to Space Situational Awareness (SSA)* (Nov. 16, 2022), <https://spacelaws.com/articles/laws-relating-to-space-situational-awareness-ssa/>.

Moreover, as submitted before, using lasers in outer space is a universally recognized high-risk activity.¹¹⁴ Thus, relying on collision avoidance data from a single SSA provider to fire the laser is inherently risky.

In casu, Argyliam used a laser beam in LEO.¹¹⁵ Knowing that Charalg Inc. had once provided incorrect data,¹¹⁶ Argyliam still relied solely on it and applied the data to laser emission,¹¹⁷ contrary to the original purpose of collision avoidance.¹¹⁸ Thus, without validating the data from Charalg Inc., the laser emission was extremely risky and Argyliam should foresee the damage caused by this ultra-hazardous space activity.

B. Argyliam is liable under Article VII of the *OST*.

Article VII of the *OST* stipulates the liability of a launching State for damage caused by its space objects to other States.¹¹⁹ Liability under Article VII refers to liability under general international law, namely fault-based liability.¹²⁰ Besides, causality must be established between the damage and the space object launched.¹²¹

As submitted above, Argyliam was acting at fault and Palver-3 caused the

¹¹⁴ *Supra* Argument I(A)(2).

¹¹⁵ *Compromis*, ¶9.

¹¹⁶ *Compromis*, ¶3.

¹¹⁷ *Compromis*, ¶9.

¹¹⁸ *Compromis*, ¶3.

¹¹⁹ Article VII, *OST*.

¹²⁰ Carl Q. Christol, *International Liability for Damage caused by Space Objects*, 74 AM. J. INT'L L. 346, 353 (1980); IAN BROWNLIE, PRINCIPLES OF PUBLIC INTERNATIONAL LAW 503 (2008).

¹²¹ Bin Cheng, *International Responsibility and Liability for Launch Activities*, 20 AIR & SPACE L. 297, 297 (1995).

destruction of Iriord-8.¹²² Hence, Argyliam, as the launching State, is liable under Article VII of the *OST*.

C. Argyliam is liable under general international law.

Under general international law, the responsible State is liable for damages caused by its internationally wrongful act.¹²³ This is considered a principle of general international law.¹²⁴ As submitted above,¹²⁵ the destruction of Iriord-8 was caused by using Palver-3, which constitutes an internationally wrongful act. Thus, Argyliam is liable for the destruction of Iriord-8.

D. Koligian did not come to this Court with unclean hands.

The doctrine of “unclean hands” demonstrates that a party’s claims would be barred due to its involvement in activities unlawful under international law.¹²⁶

However, this Court has never explicitly endorsed the unclean hands doctrine in any judgments,¹²⁷ and it is doubtful whether the principle is a part of general international law.¹²⁸ Even if this Court holds the doctrine applicable, the Respondent

¹²² *Supra* Argument II(B)(2); *Supra* Argument II(B)(3).

¹²³ BIN Cheng, *supra* note 121, at 297; Corfu Channel, *supra* note 36, at 23.

¹²⁴ Factory at Chorzów Case (Ger. v. Pol.), Jurisdiction, 1927 P.C.I.J. (ser. A) No.9, at 21 (July 26); Armed Activities on the Territory of the Congo (Dem. Rep. Congo v. Uganda), Judgment, 2005 I.C.J. 168, 257 (Dec. 19).

¹²⁵ *Supra* Argument I(C)(1).

¹²⁶ BIN CHENG, GENERAL PRINCIPLES OF LAW AS APPLIED BY INTERNATIONAL COURTS AND TRIBUNALS 155 (1953).

¹²⁷ Rahim Moloo, *A Comment on the Clean Hands Doctrine in International Law*, 2010 INTER ALIA 39, 41 (2010).

¹²⁸ U.N. Int’l Law. Comm’n, 56th Sess., *Provisional Summary Rec. of the 2791st Meeting*, at 11, U.N. Doc. A/CN.4/SR.2791 (May 7, 2004).

submits that Koligian did not violate Article VI of the *OST* and did not come to this Court with unclean hands.

Article VI of the *OST* provides that the activities of non-governmental entities in outer space require continuing supervision by the appropriate State.¹²⁹ However, Article VI does not provide a criterion for “continuing supervision”.¹³⁰ Thus, States are free to implement the form of such supervision¹³¹ as long as they ensure that non-governmental entities comply with the *OST*.¹³²

In casu, there was no evidence showing that Charalg Inc. was contrary to the *OST*.¹³³ Besides, in practice, no State requires companies to provide all specific data in real-time.¹³⁴ In this situation, since Koligian did not need access to each company’s real-time data, Charalg Inc.’s single error cannot prove Koligian breached the obligation of supervision.¹³⁵ Thus, Koligian does not come to this Court with unclean hands.

Therefore, Argylam is liable for the destruction of Iriord-8.

¹²⁹ Article VI, *OST*.

¹³⁰ JULIAN HERMIDA, LEGAL BASIS FOR A NATIONAL SPACE LEGISLATION 45 (2004).

¹³¹ V. Kayser, *Commercial Exploitation of Space: Developing Domestic Regulation*, XVII ANN. AIR & SPACE L. 187, 190 (1992).

¹³² Karl-Heinz Bockstiegel, *Legal Aspects of Space Activities by Private Enterprises: Introductory Report*, 19 PROC. ON L. OUTER SPACE 234, 236 (1976).

¹³³ *Compromis*, ¶3.

¹³⁴ Act on Space Activities (2018) (Fin.); The Space Industry Regulations (2021) (Eng.); The French Space Operations Act (2008) (Fr.); Outer Space Act (2016) (Den.); Basic Space Law (2008) (Japan); National Space Policy (2020) (U.S.).

¹³⁵ *Compromis*, ¶9.

III. KOLIGIAN’S USE OF THE ASAT MISSILE AGAINST PALVER-2 WAS NOT CONTRARY TO INTERNATIONAL LAW.

The use by Koligian of the ASAT missile against Palver-2 did not violate international law since it was not contrary to the *OST*, [A] and Article 2(4) of the *U.N. Charter*. [B] In any event, Koligian could invoke necessity to preclude the wrongfulness. [C]

A. Koligian’s use of the ASAT missile did not violate the *OST*.

The Respondent submits that Koligian did not violate Article VIII of the *OST* for not intervening in Argyliam’s jurisdiction and control over Palver-2. [1] Besides, Koligian did not breach Article IX of the *OST* by fulfilling the obligation of consultation, preventing harmful contamination and following the principle of due regard. [2]

1. Koligian did not violate Article VIII of the *OST*.

Under Article VIII of the *OST*, the State of registry retains jurisdiction and control over the space object.¹³⁶ Nonetheless, Palver-2 was in the legal status of space debris, [a] and the takedown of Palver-2 did not infringe its jurisdiction and control. [b]

a. Palver-2 was in the legal status of space debris.

According to the COPUOS *Space Debris Mitigation Guidelines*,¹³⁷ any non-functional man-made objects located in Earth orbit, including uncontrolled satellites are characterized as space debris.¹³⁸ *In casu*, Palver-2 ceased responding to commands and

¹³⁶ Article VIII, *OST*.

¹³⁷ U.N. Comm. on the Peaceful Uses of Outer Space, *Inter-Agency Space Debris Coordination Committee Space Debris Mitigation Guidelines*, U.N. Doc. A/AC.105/C.1/L.366, at 1 (July 17, 2018) [*COPUOS Guidelines*].

¹³⁸ L. Perek, *Ex Facto Sequitur Lex: Facts which Merit Reflection in Space Law in Particular with Regard to Registration and Space Debris Mitigation*, in II ESSENTIAL AIR AND SPACE LAW-SPACE LAW: CURRENT PROBLEMS AND PERSPECTIVES FOR FUTURE

could not be restored,¹³⁹ which was officially confirmed by Argyliam, the State of registry.¹⁴⁰ Therefore, Palver-2 was space debris.

b. Koligian did not infringe the jurisdiction and control over Palver-2.

The jurisdiction and control would not be infringed if the technical arrangements necessary for fulfilling the space object's mission were not interfered with.¹⁴¹ As space debris increases, active debris removal has been called for¹⁴² to remove space debris that has lost technical arrangements to fulfill its mission.¹⁴³

In casu, the uncontrolled Palver-2 became space debris.¹⁴⁴ The entire Palver system's mission had already failed without the synergy of all three satellites.¹⁴⁵ In this situation, since Argyliam no longer maintained necessary technical arrangements over Palver-2, Koligian's action did not infringe Argyliam's jurisdiction and control.

2. Koligian complied with Article IX of the *OST*.

Koligian conformed to Article IX of the *OST* since it did not breach the principle of due regard, [a] the obligation for preventing harm contamination [b] and undertaking international consultations. [c]

REGULATION 29, 43 (Marietta Benko & Kai-Uwe Schrogl et al. eds., 2005); H. KLINKRAD, SPACE DEBRIS: MODELS AND RISK ANALYSIS 27 (2006); L. ANSELMO, SPACE DEBRIS, 41 ADVANCES IN SPACE RESEARCH 1003 (2008).

¹³⁹ *Compromis*, ¶12.

¹⁴⁰ *Compromis*, ¶12.

¹⁴¹ MANFRED LACHS, *supra* note 3.

¹⁴² J-C Liou, NL Johnson & NM Hill, *Controlling the Growth of Future LEO Debris Populations with Active Debris Removal*, 5-6 ACTA ASTRONAUTICA 648, 648 (2010).

¹⁴³ *COPUOS Guidelines*, *supra* note 137, at 30.

¹⁴⁴ *Supra* Argument (III)(A)(1)(a).

¹⁴⁵ *Compromis*, ¶15.

a. Koligian did not violate the principle of “due regard”.

Article IX of the *OST* provides that States shall pay due regard to the corresponding interests of other States.¹⁴⁶ The Respondent submits that Palver-2 was not a corresponding interest, [i] and in any event, Koligian complied with the principle of due regard. [ii]

i. Palver-2 was not a corresponding interest.

“Corresponding interests” refer to the legal rights of other States in the peaceful use and exploration of outer space.¹⁴⁷ It excludes activities that threaten international peace and security,¹⁴⁸ which is determined in the context of technologies and actual use of space.¹⁴⁹

As submitted above,¹⁵⁰ the laser emission could cause permanent damage to satellites¹⁵¹ and threaten international peace and security.¹⁵² *In casu*, Palver-2 already lost control, with a 3% chance of spontaneous activation, posing a severe hazard in LEO.¹⁵³ Therefore, Palver-2 was not a corresponding interest of Argylia.

¹⁴⁶ Article IX, *OST*.

¹⁴⁷ Mineiro, *supra* note 8, at 678.

¹⁴⁸ CHRISTOPHER J. BORGAN, *THE FUTURE LAW OF THE ARMED CONFLICT* 166 (2022); Ricky J. Lee & Sarah L. Steele, *Military Use of Satellite Communications, Remote Sensing, and Global Positioning Systems in the War on Terror*, 79 *J. AIR L. & COM.* 69, 77 (2014).

¹⁴⁹ FRANCIS LYALL & PAUL B. LARSEN, *SPACE LAW: A TREATISE* 523 (2007).

¹⁵⁰ *Supra* Argument I(B)(1)(a)

¹⁵¹ DAVID WRIGHT, LAURA GREGO & LISBETH GRONLUND, *THE PHYSICS OF SPACE SECURITY* 128 (2005).

¹⁵² *Responsible Behaviours*, *supra* note 26, at 14.

¹⁵³ *Compromis*, ¶12.

ii. In any event, Koligian complied with the principle of “due regard”.

States must prove beyond reasonable doubt that every possible step is undertaken to prevent harm.¹⁵⁴ According to *COPUOS Guidelines* and *UNIDIR Guidelines*,¹⁵⁵ when using the ASAT missile, States should consider the orbital altitude of the debris cloud, assuring it is low enough for debris to enter the atmosphere and other satellites would not pass by.¹⁵⁶

In casu, Koligian targeted Palver-2 in LEO at a sufficiently low altitude of about 200km,¹⁵⁷ and the debris was completely burned up without interfering with other satellites.¹⁵⁸ The limited time available impeded Koligian to adopt further sophisticated methods.¹⁵⁹ Therefore, Koligian complied with the principle of due regard.

b. Koligian complied with the obligation to prevent harmful contamination.

Harmful contamination shall be avoided in space exploration by appropriate measures.¹⁶⁰ The prior concern is not the result but measures taken to prevent harmful contamination.¹⁶¹ *In casu*, following the due regard principle, Koligian did not cause

¹⁵⁴ Sergio Marchisio, *supra* note 9, at 176.

¹⁵⁵ *COPUOS Guidelines*, *supra* note 137, at 10; UNIDIR, *Towards ASAT Test Guidelines* (May 17, 2018), <https://unidir.org/publication/towards-asat-test-guidelines>.

¹⁵⁶ WILLIAM H. BOOTHBY, *THE LAW OF TARGETING* 377 (2012).

¹⁵⁷ *Compromis*, ¶¶5, 14; *Frequently Asked Questions* (Sept. 2, 2011), https://www.nasa.gov/news/debris_faq.html.

¹⁵⁸ *Compromis*, ¶14.

¹⁵⁹ *Compromis*, ¶12.

¹⁶⁰ Article IX, *OST*.

¹⁶¹ Ivan Vlastic, *The Space Treaty: A Preliminary Evaluation*, 55 *CAL. L. REV.* 507, 517 (1967).

any harmful contamination and fulfilled the obligation.¹⁶²

c. Koligian did not violate the obligation of undertaking international consultations.

Under Article IX of the *OST*,¹⁶³ States are obligated to consult when it has reason to believe the planned activity would cause potentially harmful interference.¹⁶⁴ “Harmful interference” in outer space includes interference with the freedom of physical movement or operations of space objects.¹⁶⁵

In casu, Palver-2 lost control and could not be restored.¹⁶⁶ Thus, its physical operations and movement could no longer be exercised.¹⁶⁷ As a result, Koligian had no reason to believe that there would be any harmful interference with it.

Therefore, Koligian did not violate the obligation of consultation under Article IX of the *OST*.

B. Koligian’s use of the ASAT missile against Palver-2 did not violate Article 2(4) of the *U.N. Charter*.

As previously submitted, to qualify as the prohibited armed force, gravity and hostile intent are required.¹⁶⁸ The Respondent submits that Koligian’s use of the ASAT missile did not violate Article 2(4) of the *U.N. Charter*. Admittedly, the ASAT missile

¹⁶² *Compromis*, ¶14.

¹⁶³ Article IX, *OST*.

¹⁶⁴ Harry H. Almond Jr., *Peaceful Purposes and Peaceful Activities in Outer Space*, 29 PROC. ON L. OUTER SPACE 1, 10 (1986).

¹⁶⁵ Mineiro, *supra* note 8, at 678.

¹⁶⁶ *Compromis*, ¶12.

¹⁶⁷ *Id.*

¹⁶⁸ *Supra* Argument (I)(B)(1).

has the aforementioned destructive capacity,¹⁶⁹ but Koligian did not act with hostile intent,¹⁷⁰ as compelling another State to do or refrain from something.¹⁷¹

Since space debris mitigation appeared as an instant customary international law [1] and the use by Koligian of the ASAT missile against Palver-2 was conducting a space debris mitigation process, [2] it reveals the absence of hostile intent. [3]

1. Space debris mitigation appeared as an instant customary international law.

To determine the existence and content of customary international law, a general practice and *opinio juris* are required.¹⁷² In the modern era, the requirement of State practices has been tempered, since a short period is not a bar to the formation of customary international law.¹⁷³ In space law, instant customary international law emerges when non-binding resolutions manifest strong expectation that States would abide by them and is gradually justified by State practice.¹⁷⁴

The Respondent submits that space debris mitigation is characterized as instant customary international law since the *opinio juris* [a] and the actual States practices¹⁷⁵

¹⁶⁹ *Supra* Argument (I)(B)(1)(a)(i).

¹⁷⁰ CORTEN, *supra* note 36, at 67.

¹⁷¹ *Id.*

¹⁷² G.A. Res. 73/203, *Identification of customary international law*, at 9 (Feb. 14, 2019); Article 38(1)(b), *I.C.J. Statute*.

¹⁷³ North Sea Continental Shelf (Fed. Rep. Ger. v. Neth.), Judgement, 1969 I.C.J. 4, 43 (Jul. 8).

¹⁷⁴ BIN CHENG, *supra* note 94, at 133.

¹⁷⁵ MALCOLM SHAW, *INTERNATIONAL LAW* 55 (2017); Case Concerning the Continental Shelf (Libya v. Malta), Judgement, 1985 I.C.J. 13, 20 (June, 3); Jurisdictional Immunities (Ger. v. It.), Judgement, 2012 I.C.J. 100, 122 (Feb. 3).

are both satisfied. [b]

a. The opinio juris was evidenced.

Non-binding though, U.N. resolutions have normative value, providing evidence for *opinio juris*.¹⁷⁶ The U.N.G.A. Resolution concerning *International Cooperation* and the *COPUOS Guidelines*¹⁷⁷ revealed the *opinio juris* of space debris mitigation.

b. The actual State practices were presented.

Consistent with the resolutions and guidelines of international organizations, launch-competent States have adopted their mitigation standards in legislation and technical standards.¹⁷⁸ These *de facto* international standards,¹⁷⁹ including the *NASA Technical Standard*,¹⁸⁰ the *European Code of Conduct*,¹⁸¹ as well as the standards of China, Russia and Japan,¹⁸² evidenced the actual State practices upon the *opinio juris*.

¹⁷⁶ Nuclear Weapons, *supra* note 37, at 254.

¹⁷⁷ G.A. Res. 60/99, *International Cooperation in the Peaceful uses of Outer Space*, at 27 (Jan. 6, 2006); *COPUOS Guidelines*, *supra* note 137, at 366.

¹⁷⁸ M. Mejia-Kaiser, *Informal Regulations and Practices in the Field of Space Debris Mitigation*, 34 ANN. AIR & SPACE L. 21, 26 (2009).

¹⁷⁹ UNOOSA maintains a “Compendium of Space Debris Mitigation Standards Adopted by States and International Organizations”, www.unoosa.org/oosa/en/ourwork/topics/space-debris/compendium.html.

¹⁸⁰ NASA, *Process for Limiting Orbital Debris: NASA-STD-8719.14* (Nov. 5, 2021), <https://standards.nasa.gov/standard/nasa/nasa-std-871914>.

¹⁸¹ ESA, *Requirements on Space Debris Mitigation for Agency Projects* (Apr. 1, 2008), <https://technology.esa.int/page/space-debris-mitigation>.

¹⁸² CNSA, *Space Object Registration Management Method* (Feb. 8, 2001), <http://www.cnsa.gov.cn/n6758823/n6758839/c6796215/content.html>; JAXA, *Space Debris Mitigation Mechanism in Japan* (Apr. 3, 2009), <https://sma.jaxa.jp/TechDoc/>; GOST R., *Space Technology Items. General Requirements for Space Vehicles for Near-Earth Space Debris Mitigation* (Jan. 1, 2019), <http://nd.gostinfo.ru/document/6431006.aspx>.

2. The use by Koligian of the ASAT missile against Palver-2 was conducting a space debris mitigation process.

Considering the aforementioned instant customary international law of space debris mitigation,¹⁸³ the Respondent submits that Palver-2 endangered the constellation and Argyliam should have taken the space debris mitigation measures. [a] As a result, Koligian was forced to take appropriate mitigation measures. [b]

a. Palver-2 endangered the constellation and Argyliam should have taken space debris mitigation measures.

Telecommunication, air transport, and many other activities all rely on space-based facilities.¹⁸⁴ Even a small collision of the commercial satellite infrastructure would affect the global economy.¹⁸⁵ Besides, the chain reaction called *Kessler Syndrome* would enlarge further collisions.¹⁸⁶ To avoid harm, debris producing States should take the lead in removing their debris.¹⁸⁷

In casu, the uncontrolled Palver-2 endangered a densely populated orbit of 150

¹⁸³ *Supra* argument (III)(A)(2)(a).

¹⁸⁴ WILLIAM H. BOOTHBY, *supra* note 156, at 359.

¹⁸⁵ Eligar Sadeh, *Obstacles to International Space Governance*, in 3 HANDBOOK OF SPACE: SECURITY POLICIES, APPLICATIONS AND PROGRAMS 23, 34 (Kai-Uwe Schrogl et al. eds., 2015).

¹⁸⁶ M.T. SAVAGE, THE MILLENNIAL PROJECT: COLONIZING THE GALAXY IN EIGHT EASY STEPS 149 (1992); J. SCHEFTER, THE GROWING PERIL OF SPACE DEBRIS, 221/1 POPULAR SCIENCE 48 (1982); W.S. WONG & J. FERGUSSON, MILITARY SPACE POWER: A GUIDE TO THE ISSUES 69 (2010).

¹⁸⁷ U.N. Comm. on the Peaceful Uses of Outer Space, *Active Debris Removal, Rep. of the International Interdisciplinary Congress on Space Debris Remediation and On-Orbit Satellite Servicing*, at 47, 48, U.N. Doc. A/AC.105/C.1/2012/CRP.16 (Jan. 27, 2012).

functioning satellites.¹⁸⁸ Argylia, as the State of registry,¹⁸⁹ should take mitigation measures to avoid the forthcoming harm caused by the space debris Palver-2.

b. Since Argylia could not reach an effective measure, Koligian was forced to take appropriate mitigation measures.

Failure of the debris producing State to de-orbiting the debris could not prevent other States from rectifying the consequence to preserve their essential interest in necessity.¹⁹⁰ State practices of U.S.¹⁹¹ and India¹⁹² revealed the act of using ASAT missiles in debris removal,¹⁹³ demonstrating that the ASAT missile is capable of removing the threat of space debris.

In casu, faced the danger posed by the space debris Palver-2, Koligian had to act in a specific limited time.¹⁹⁴ Thus, Koligian was forced to choose the ASAT missile to remove the threat and carry out the mitigation process.¹⁹⁵

¹⁸⁸ *Compromis*, ¶12.

¹⁸⁹ *Compromis*, ¶5.

¹⁹⁰ J.H.W. VERZIJL, *INTERNATIONAL LAW IN HISTORICAL PERSPECTIVE: STATE TERRITORY* 101 (1970); R. Lemkin, *Genocide as a crime under International Law*, 41 *AJIL* 145, 151 (1947); J. PAULSSON, *DENIAL OF JUSTICE IN INTERNATIONAL LAW* 101 (2005).

¹⁹¹ SPACESECURITY.ORG., *SPACE SECURITY* 2008 165 (2008); Craig Covault, *Space Control*, 166 *AVIAT. WK. & SPACE TECH.* 59, 61 (2007); Eric Hagt, *The U.S. Satellite Shootdown: China's Response*, 3 *BULL AT. SCI.* 1, 5 (2008).

¹⁹² Sanjeev Miglani & Krishna N. Das, *Modi Hails India as Military Space Power After Anti-Satellite Missile Test* (Mar. 27, 2019), <https://www.reuters.com/article/us-india-satellite-idUSKCN1R80IA>.

¹⁹³ David A. Koplou, *Asat-ification: Customary International Law and the Regulation of Anti-Satellite Weapons*, 30 *MICH. J. INT'L L.* 1187, 1238 (2009).

¹⁹⁴ *Compromis*, ¶12.

¹⁹⁵ *Compromis*, ¶14.

3. Koligian was in lack of hostile intent.

Article 2(4) of the *U.N. Charter* prohibits the use of force when one State intends to compel another.¹⁹⁶ This explicitly requires forcing the will at the level of against the State, which should be examined in the specific circumstances.¹⁹⁷ Moreover, without forcing the State to accept a new circumstance, merely against its will could not amount to compelling it.¹⁹⁸

In casu, since Palver-2 was drifting space debris,¹⁹⁹ the removal would not compel Argyliam to accept a new circumstance. Having to take debris mitigation measures,²⁰⁰ Koligian did not intend to compel Argyliam at the level of against the State. Therefore, Koligian, without hostile intent, did not violate Article 2(4) of the *U.N. Charter*.

C. Even if Koligian violated international law, the wrongfulness could be precluded by necessity.

As submitted above, necessity could be invoked to preclude the wrongfulness.²⁰¹ Koligian could invoke necessity since the use of the ASAT missile was to safeguard an outweighing essential interest [1] against a grave and imminent peril, [2] and was the only way for Koligian. [3]

1. The use of the ASAT was to safeguard an outweighing essential interest.

The act in question must be aimed at safeguarding an essential interest, while not

¹⁹⁶ Albrecht Randelzhofer, *Article 2(4)*, in 1 THE CHARTER OF THE UNITED NATIONS: A COMMENTARY, 200, 226 (Bruno Simma ed. 2012).

¹⁹⁷ CORTEN, *supra* note 36, at 84.

¹⁹⁸ Corfu Channel, *supra* note 36, at 19.

¹⁹⁹ *Supra* Argument (III)(A)(1)(a).

²⁰⁰ *Supra* Argument (III)(A)(2)(b)(ii).

²⁰¹ *Supra* Argument (I)(C).

impairing another State's essential interest.²⁰² "Essential interest" includes the interest of a State and the international community as a whole,²⁰³ which covers the safety of the civilian population and the environment.²⁰⁴ The interest relied on must outweigh all other considerations.²⁰⁵

In casu, Palver-2 was drifting towards the constellation,²⁰⁶ which was operated to secure flight safety with stable Internet services.²⁰⁷ Once a collision happens, the regenerated space debris²⁰⁸ would seriously impair the function of the entire constellation.²⁰⁹ Given the high risk of collision,²¹⁰ the threat to the safety of civilians in flight and the space environment posed by Palver-2 and potential space debris constituted an impairment of the essential interest.

By contrast, Palver-2 lost control and cannot be restored.²¹¹ Any interest in the

²⁰² Article 25, *ARSIWA*.

²⁰³ Int'l Law. Comm'n, Rep., *supra* note 70, at 83.

²⁰⁴ W. R. MANNING, *DIPLOMATIC CORRESPONDENCE OF THE UNITED STATES: CANADIAN RELATIONS, 1784–1860* 422 (1943); LORD MCNAIR, *INTERNATIONAL LAW OPINIONS* 228 (1956); Int'l Law. Comm'n, Rep., *supra* note 70, at 83.

²⁰⁵ Int'l Law. Comm'n, Rep., *supra* note 70, at 84.

²⁰⁶ *Compromis*, ¶12.

²⁰⁷ *Compromis*, ¶12; Air Sat One, *Aircraft Satcom Internet and Data Solutions - Air Sat One* (Nov. 20, 2022), <https://www.airsatone.com/aircraft-internet-and-data-solutions>.

²⁰⁸ DAVID WRIGHT, *supra* note 151, at 1; David A. Koplow, *The Fault Is Not in Our Stars: Avoiding an Arms Race in Outer Space*, 59 *HARV. INT'L L.J.* 331, 334 (2018).

²⁰⁹ SAVAGE, *supra* note 186. W.S. WONG & J. FERGUSSON, *supra* note 186.

²¹⁰ UNCOPUOS, *Rep. of the Events of Interest*, at 45, U.N. Doc. A/CONF.101/11 (Nov. 2, 1982).

²¹¹ *Compromis*, ¶12.

utilization of Palver-2 did not exist.²¹² Hence, Koligian was safeguarding an outweighing essential interest by using the ASAT missile.

2. The use of the ASAT missile was against a grave and imminent peril.

The peril has to be objectively established and not merely apprehended as possible.²¹³ Besides, peril appearing in the future is still imminent if it is established.²¹⁴

In casu, Palver-2 was expected to enter the orbit on 13 May. Meanwhile, its laser remained active, which could spontaneously emit at any time.²¹⁵ Though Argyliam claimed the likelihood was less than 3%,²¹⁶ according to NASA's standard in space systems, even a probability of one in a thousand is unacceptable.²¹⁷ Thus, the potential for spontaneous laser activation surpassed the risk control limits.²¹⁸

Besides, this event occurred in LEO,²¹⁹ inherently with high risks of collision.²²⁰ Thus, the risk was even higher when Palver-2 was drifting towards the large

²¹² *Compromis*, ¶15.

²¹³ Int'l Law. Comm'n, Rep., *supra* note 70, at 81.

²¹⁴ Gabčíkovo-Nagymaros, *supra* note 68, at 42.

²¹⁵ *Compromis*, ¶12.

²¹⁶ *Id.*

²¹⁷ U.S. Government Orbital Debris Mitigation Standard Practices (2019); Michael W. Taylor, *Trashing the Solar System One Planet at a Time: Earth's Orbital Debris Problem*, 20 GEO. INT'L ENVTL. L. REV. 1 34 (2007); NASA Safety Standard Guidelines And Assessment Procedures For Limiting Orbital Debris (1995).

²¹⁸ Julian Hermida, *Risk Management in Arianespace Launch Agreements*, 25 ANN. AIR & SPACE L. 143, 144 (2000).

²¹⁹ *Compromis*, ¶4.

²²⁰ European Space Policy Institute (ESPI), ESPI REPORT 76 IN-ORBIT SERVICES FULL REPORT 28 (ESPI ed., 2020); Cabinet Office, *Study Report of Sub-working Group on On-orbit Servicing, Government of Japan* (Apr. 29, 2022) https://www8.cao.go.jp/space/english/stm/study_report.pdf.

constellation in LEO.²²¹ Therefore, the peril faced was grave and imminent.

3. The use of the ASAT missile was the only way for Koligian.

The peril must not be escapable by any other lawful means, even more costly.²²²

The Respondent submits that the use of ASAT missile at that time was the only way since other ways were not effective, [a] and the later use of ASAT missile was also not feasible. [b]

a. The other ways were not available at that moment.

Other measures, such as the SSV, often face a significant risk of failure in orbital tests²²³ due to the high risk of space activities.²²⁴

In casu, the SSV provided by Argyliam has only been tested on the ground.²²⁵

Without a successful orbital test, it is highly doubtful whether the SSV would fulfill its mission. Besides, though active collision avoidance may be an option,²²⁶ it would

²²¹ *Compromis*, ¶12; Craig H. Allen, *Taking Narrow Channel Collision Prevention Seriously to More Effectively Manage Marine Transportation System Risk*, 41 J. MAR. L. & COM. 1, 6 (2010).

²²² Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory, Advisory Opinion, 2004 I.C.J. 136, 140 (July 9).

²²³ Himanshu Goenka, *Japanese Space Debris Collector, JAXA's Kounotori6, Fails To Deploy Junk-Fishing Net* (Feb. 6, 2017), <https://www.ibtimes.com/japanese-space-debris-collector-jaxas-kounotori6-fails-deploy-junk-fishing-net-2487001>; Space safety magazine, *SpaceX Failure, CRS-7 Mission Ends In Catastrophic Loss Of Vehicle* (June 28, 2015), <https://www.spacesafetymagazine.com/news/spacex-failure-crs-7-mission-ends-in-catastrophic-loss-of-vehicle/>.

²²⁴ KATARZYNA MALINOWSKA, RISK MANAGEMENT AND INSURANCE OF ON-ORBIT SERVICING 13-14 (2020).

²²⁵ *Compromis*, ¶13.

²²⁶ ESA Space Debris Office, *Automatic Collision Avoidance* (Apr. 23, 2021), https://www.esa.int/Space_Safety/Space_Debris/Automating_collision_avoidance.

usually take months and was not feasible then.²²⁷

b. The later use of the ASAT missile was also not feasible.

First, although a missile's flight time could only be minutes, it shall be aimed at an expected spot for the fast speed of satellites, which would take a long time to be well-prepared.²²⁸ Second, it could be hours before a ground-based ASAT was in the proper position to attack a satellite in LEO due to the Earth's rotation.²²⁹

In casu, Koligian launched the ASAT missile on the evening of 11 May,²³⁰ and Palver-2 was predicted to enter the orbit on 13 May.²³¹ If delayed, it would miss the time of launching and the debris generated would be much closer to the orbit of the constellation, leaving no space in case of any accident. Hence, destroying Palver-2 on the evening of 11 May was the only way for Koligian.

In conclusion, Koligian's use of the ASAT missile did not violate international law.

IV. KOLIGIAN IS NOT LIABLE FOR THE DESTRUCTION OF PALVER-2.

Koligian was not liable under Article III of the *LIAB*,²³² [A] Article VII of the *OST*, [B] and general international law. [C]

A. Koligian is not liable under Article III of the *LIAB*.

²²⁷ Brian Weeden, *Dealing with Galaxy 15: Zombiesats and on-orbit servicing* (May 24, 2010), <https://thespacereview.com/article/1634/1>.

²²⁸ Lars Hostbeck, *Space Weapons, Concepts and their International Security Implications*, in 54 *HANDBOOK OF SPACE: SECURITY POLICIES, APPLICATIONS AND PROGRAMS* 955, 967 (Kai-Uwe Schrogl et al. eds., 2015).

²²⁹ David Wright, *supra* note 151, at 156.

²³⁰ *Compromis*, ¶14.

²³¹ *Compromis*, ¶13.

²³² Article III, *LIAB*.

Under Article III of the *LIAB*, Koligian was not liable since the ASAT missile is not a “space object” [1] and Koligian was not at fault. [2]

1. ASAT missile is not a “space object”.

The damage covered by *LIAB* must be caused by a “space object”.²³³ Under the *LIAB*, the definition of “space object” is ambiguous.²³⁴ Supported by the State practice,²³⁵ space objects shall be placed in outer space,²³⁶ at least taking orbital movement²³⁷ with a minimum speed surrounding the orbit.²³⁸ The term direct-ascent means that the missile is directly towards the target, spending no time in Earth orbit.²³⁹

In casu, the ASAT missile used by Koligian directly targeted Palver-2 without entering the orbit.²⁴⁰ Thus, in line with subsequent State practice, an ASAT missile without orbital movement was not a space object.²⁴¹

²³³ Stephen Gorove, *Definitional Issues Pertaining to Space Object*, 37 PROC. ON L. OUTER SPACE 87, 93 (1994).

²³⁴ Article 31, *VCLT*; Article I, *LIAB*; BIN CHENG, *supra* note 94, at 493.

²³⁵ Article 32, *VCLT*.

²³⁶ U.S. Dep’t of Nat’l Sec. & Def., Memorandum on Space Policy Directive-5—Cybersecurity Principles for Space Systems, Presidential Memoranda (Sept. 4, 2020); Article 1(a), Draft Treaty on the Prevention of the Placement of Weapons in Outer Space, and of the Threat or Use of Force against Outer Space Objects, U.N. Doc. CD/1839 (Oct. 29, 2008).

²³⁷ Leopold, C. Vernon & Scafuri Allison L., *Orbital Space Flight under International law*, 19 FED. B.J. 227, 240 (1959); Kunihiro Tatsuzawa, *Definition of the Space Object*, 34 PROC. ON L. OUTER SPACE 357, 360 (1991); Article 1, Ordinance of the Supreme Soviet of Ukraine on Space Activity (1996) (Ukr.).

²³⁸ BUENOS AIRES, REPORT OF THE 53D CONFERENCE OF THE I.L.A. 176 (1968).

²³⁹ Lars Hostbeck, *supra* note 228, at 12.

²⁴⁰ *Compromis*, ¶13; DAVID WRIGHT, *supra* note 151, at 157.

²⁴¹ Article 2(3), Space Development Promotion Act (2007) (S. Kor.); Article 2, Space Object Registration Management Method (2001) (China).

2. Koligian was not at fault.

Liability under Article III of the *LIAB* is based on fault,²⁴² which refers to the breach of an obligation imposed by law.²⁴³ As submitted above,²⁴⁴ Koligian did not breach international obligations since it conformed to the *U.N. Charter* and the *OST*. Therefore, Koligian was not acting at fault and is not liable under the *LIAB*.

B. Koligian is not liable under Article VII of the *OST*.

Article VII of the *OST* stipulates that a launching State is liable for damage caused by its space objects to another State.²⁴⁵ To establish the liability under Article VII, the fault is also required.²⁴⁶ Nonetheless, the ASAT missile is not a space object, and Koligian was not at fault. Therefore, Koligian is not liable under Article VII of the *OST*.

C. Koligian is not liable under general international law.

Liability under general international law represents a consequence of responsibility when the breach of obligation causes damage.²⁴⁷ Arising from the internationally wrongful act,²⁴⁸ State responsibility is established if the act is attributable to State and violates an international obligation of the State.²⁴⁹

²⁴² Article III, *LIAB*.

²⁴³ Jochen Pfeifer, *International Liability for Damage Caused by Space Objects*, 30 GER. J. AIR & SPACE L. 215, 225 (1981); Armel Kerrest & Lesley Jane Smith, *Article VII*, in 1 COLOGNE COMMENTARY ON SPACE LAW 126, 142 (Stephan Hobe et al. eds., 2009); Nottebohm (Liech. v. Guat.), Judgment, 1955 I.C.J. 4, 10 (April, 6).

²⁴⁴ *Supra* Argument III.

²⁴⁵ Article VII, *OST*.

²⁴⁶ Christol, *supra* note 120, at 353; BROWNIE, *supra* note 120, at 503.

²⁴⁷ BIN CHENG, *supra* note 121, at 300.

²⁴⁸ Robert Rosenstock, *The ILC and State Responsibility*, 96 A.J.I.L. 792, 792 (2002).

²⁴⁹ Article 1, *ARSIWA*; *Factory at Chorzów Case*, *supra* note 124, at 21; *Lusitania Case*

In casu, as mentioned before, Koligian did not violate international obligations,²⁵⁰ and thereby the internationally wrongful act was not established. Therefore, Koligian is not liable under general international law.

In conclusion, Koligian is not liable for the destruction of Palver-2.

(U.S. v. Ger.), 7 R.I.A.A. 23, 39 (Perm. Ct. Arb. 1923).

²⁵⁰ *Compromis*, ¶14.

SUBMISSIONS TO THE COURT

For the foregoing reasons, the Government of Koligian, Respondent, respectfully requests the Court to adjudge and declare that:

1. The use of Palver-3 violated international law.
2. Argyliam is liable for the destruction of Iriord-8.
3. The use by Koligian of the ASAT missile against Palver-2 is not contrary to international law.
4. Koligian is not liable for the destruction of Palver-2.