



Space Assurance or Space Dominance?
THE CASE AGAINST WEAPONIZING SPACE

Michael Krepon with Christopher Clary

Copyright © 2003
The Henry L. Stimson Center

All rights reserved. No part of this publication may be reproduced or transmitted in any form
or by any means without prior permission in writing from the Henry L. Stimson Center.

Cover design by Design Army.

The Henry L. Stimson Center
11 Dupont Circle, NW Ninth Floor Washington, DC 20036
phone 202.223.5956 fax 202.238.9604
www.stimson.org

Table of Contents

Foreword.....	v
Abbreviations.....	vii
Introduction	1
Chapter One	
From Cold War to Asymmetric Warfare	5
Space and War-fighting.....	10
The Role of Space Arms Control.....	26
Chapter Two	
Is the Weaponization of Space Inevitable?	28
What Constitutes Weaponization?	29
Cold War Caution in Space	36
Then vs. Now.....	39
Satellite Warfare and Escalation Control.....	54
Prospects for Restraint.....	56
Chapter Three	
Hedging Against Weaponization	58
Reducing Satellite Vulnerability.....	63
Downside Risks of Weaponization.....	75
Elements of a Hedging Strategy	80
Chapter Four	
Assurance Through Cooperative Measures	87
Building Blocks for Space Assurance	91
Cooperative Threat Reduction Initiatives	101
Treaties	104
Rules of the Road for Space Assurance.....	114
Summing Up.....	124
Selected Bibliography.....	129
About the Authors.....	133

」

」

」

」

Foreword

I am pleased to present the latest publication of the Henry L. Stimson Center, *Space Assurance or Space Dominance? The Case Against Weaponizing Space*. This study examines the outer frontiers of national security policy, where technology and grand strategy meet. As the study explains, space is yet another arena where the United States is the preeminent international player, and that status gives the United States unique opportunities and unique responsibilities. The study focuses primarily on weighing the costs and benefits of weaponizing space, and examines models and concepts from historic arms control that may be useful in managing this challenge. The report proposes useful steps that the United States and the international community can take to avoid the weaponization of space while continuing to utilize space for some military purposes, such as support for deployed troops. This path also facilitates the commercial and economic uses of space.

The Stimson Center's project was careful to consult with a diverse range of experts whose interests were not limited to military issues, since the policy process has to address the competing demands and the multiple constituencies for further development of space.

This study should be seen in the larger context of the enduring commitment of the Stimson Center to examine national and international security issues and to search for achievable policies that reduce the threats from weapons of mass destruction. It complements other works by Michael Krepon, leader of this project and founding president of the Stimson Center, on arms control and cooperative threat reduction.

I want to express my gratitude to the John D. and Catherine T. MacArthur Foundation for supporting this important project. I will welcome hearing from you if you have any questions about this report or about the Stimson Center.

Ellen Laipson
President and CEO
The Henry L. Stimson Center

」

」

」

」

Abbreviations

ABM	antiballistic missile
ASAT	antisatellite
BWC	Biological Weapons Convention
CD	Conference on Disarmament
CFE	Conventional Armed Forces in Europe Treaty
CWC	Chemical Weapons Convention
DSP	Defense Support Program
EMP	electromagnetic pulse
GEO	geosynchronous orbit
GPS	Global Positioning System
HALEOS	high altitude nuclear detonations against low earth orbit satellites
HAND	high altitude nuclear detonations
IADC	Interagency Space Debris Coordination Committee
ICBM	intercontinental ballistic missile
IncSea	incidents at sea
INF	intermediate-range nuclear forces
ITU	International Telecommunications Union
KE-ASAT	Kinetic Energy Antisatellite
LEO	low earth orbit
LTBT	Limited Test Ban Treaty
MEO	middle earth orbit
MIRACL	Mid-Infrared Advanced Chemical Laser
NASA	National Aeronautics and Space Administration
NTM	national technical means
PDMA	Prevention of Dangerous Military Activities Agreement
PLNS	pre- and post-launch notification system
SALT	Strategic Arms Limitation Talks
SAR	synthetic aperture radar
SLBM	submarine-launched ballistic missile
START	Strategic Arms Reduction Talks
TREE	transient radiation effects on electronics
WMD	weapons of mass destruction

」

」

」

」