

# SPACE

## EMERGING OPTIONS FOR NATIONAL POWER

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# Space Emerging Options For National Power

**John J. Klein**



## **Space Emerging Options For National Power:**

**Space** Dana J. Johnson, 1998 This report presents the results of a study that examined the extent to which both military and economic spacepower will influence national security strategy and the conduct of future military operations It attempts to articulate the key military space policy issues facing the United States and place them in the larger context of a changing strategic environment to define new options for the exercise of spacepower in the pursuit of national interests The proliferation of military space forces from the Cold War to the present can be seen in the increasing capabilities of these forces and the expanding roles they are expected to play in future missions Space forces will be expected to perform an array of space related functions including early warning and integrated tactical warning and attack assessment weather environmental monitoring satellite communications surveillance and reconnaissance navigation and positioning space control and possibly ballistic missile defense and force application

**Space: Emerging Options for National Power**, 1998 This report presents the results of a study conducted in 1993 1994 that examined the extent to which spacepower both military and economic will influence national security strategy and the conduct of future military operations It was updated and revised in 1997 to reflect the changes that have occurred in military space policies organizations and operations and in the expanding commercial space sector since 1994 The report attempts to articulate the key military space policy issues facing the United States and place them in the larger context of a changing strategic environment to define new options for the exercise of spacepower in the pursuit of national interests

**Space: Emerging Options for National Power** Dana Johnson, Rand corp santa monica ca, 1998 This report presents the results of a study conducted in 1993 1994 that examined the extent to which spacepower both military and economic will influence national security strategy and the conduct of future military operations It was updated and revised in 1997 to reflect the changes that have occurred in military space policies organizations and operations and in the expanding commercial space sector since 1994 The report attempts to articulate the key military space policy issues facing the United States and place them in the larger context of a changing strategic environment to define new options for the exercise of spacepower in the pursuit of national interests

Defense acquisitions : improvements needed in military space systems' planning and education : report to the Chairman, Subcommittee on Strategic Forces, Committee on Armed Services, and to the Honorable Robert C. Smith, U.S. Senate ,

*Space Policy in the Twenty-First Century* W. Henry Lambright, 2003 Though more than forty years old the space age has just begun and questions about its future abound What will replace the Space Shuttle Will the International Space Station justify its 100 billion potential cost Are asteroids real threats to Earth or just the subject of science fiction movies Will humans land on Mars Will the search for extraterrestrial life be rewarded In *Space Policy in the Twenty First Century* W Henry Lambright brings together ten top ranking observers of United States space exploration to address these and other issues relating to the future of the space program While the U S no longer competes with the Soviets for technological firsts they argue ideology and

national image remain at the core of space policy with other factors playing subordinate roles. Reminding readers of the historical highlights, the authors pose searching questions about the priorities and applications of space science: manned vs. unmanned flights and commercial access to the space enterprise. Contributors include Christopher F. Chyba (SETI Institute and Stanford University), Ronald J. Deibert (University of Toronto), Daniel H. Deudney (The Johns Hopkins University), W. Henry Lambright (Syracuse University), Roger D. Launius (NASA), Karl A. Leib (Syracuse University), John M. Logsdon (George Washington University), Howard E. McCurdy (American University), Scott N. Pace (White House Office of Science and Technology Policy), and Debora L. VanNijnatten (Wilfrid Laurier University). *Measuring Space Power* Marco Aliberti, Matteo Cappella, Tomas Hrozensky, 2019-08-02. This book provides an in-depth investigation of the concept of space power and devises a novel conceptual framework for empirically measuring and comparing different typologies of space actors on the basis of clearly defined criteria. In turn, the book identifies a comprehensive set of conditions required to achieve and maintain the status of space power and explores the main political security and socio-economic stakes involved. Building on this basis, the book conducts a comparative assessment of the major space actors, the underlying aim of which is to examine Europe's relative position in the space arena and put into perspective its proclaimed goal to assert itself as a space power with all of the means and resources this would entail. Given its scope, the book represents a valuable and versatile tool to support European decision making and offers key insights for executives, space professionals, and scholars alike.

**Space Warfare** John J. Klein, 2012-09-10. This new study considers military space strategy within the context of the land and naval strategies of the past. Explaining why and how strategists note the similarities of space operations to those of the air and naval forces, this book shows why many such strategies unintentionally lead to overemphasizing the importance of space-based offensive weaponry and technology. Counter to most U.S. Air Force doctrines, the book argues that space-based weapons don't imbue superiority. It examines why both air and naval strategic frameworks actually fail to adequately capture the scope of real-world issues regarding current space operations. Yet by expanding a naval strategic framework to include maritime activities, which includes the interaction of land and sea, the breadth of issues and concerns regarding space activities and operations can be fully encompassed. Commander John Klein (United States Navy) uses Sir Julian Corbett's maritime strategy as a strategic springboard while observing the salient lessons of other strategists, including Sun Tzu, Clausewitz, Jomini, and Mao Tse-tung, to show how a space strategy and associated principles of space warfare can be derived to predict concerns, develop ideas, and suggest policy not currently recognized. This book will be of great interest to all students and scholars of military and strategic studies and to those with an interest in space strategy in particular.

**Toward a Theory of Spacepower** Charles D. Lutes, 2011-03-07. This volume is a product of the efforts of the Institute for National Strategic Studies Spacepower Theory Project Team, which was tasked by the Department of Defense to create a theoretical framework for examining spacepower and its relationship to the achievement of national objectives. The team was charged with considering

the space domain in a broad and holistic way incorporating a wide range of perspectives from U S and international space actors engaged in scientific commercial intelligence and military enterprises This collection of papers commissioned by the team serves as a starting point for continued discourse on ways to extend modify refine and integrate a broad range of viewpoints about human initiated space activity its relationship to our globalized society and its economic political and security interactions It will equip practitioners scholars students and citizens with the historical background and conceptual framework to navigate through and assess the challenges and opportunities of an increasingly complex space environment

The Oxford Handbook of Space Security Saadia M. Pekkanen,P. J. Blount,2024 The Oxford Handbook of Space Security focuses on the interaction between space technology and international and national security processes Saadia M Pekkanen and P J Blount have gathered a group of key scholars who bring a range of analytical and theoretical perspectives to take an analytically eclectic approach to assessing space security from an international relations IR theory perspective Bringing together scholarship from a group of leading experts this volume explains how these contemporary changes will affect future security in from and through space

**Routledge Handbook of Space Policy** Thomas Hoerber,Mariel Borowitz,Antonella Forganni,Bruno Reynaud de Sousa,2024-12-30 This volume offers a comprehensive overview of the field of space policy Space is a technology driven domain and policy development has accelerated in recent years at a time when the space economy has begun to show remarkable potential Thus this handbook gathers experts from different fields with the aim of 1 offering an overview of the state of play regarding space policy issues and 2 expanding knowledge about possible future developments Given the cross disciplinary nature of the subject and its vast scope the authors contributions are grouped within different thematic sections as follows Theoretical structures for an understanding of space policies The history of space Society justice and the human impact Governance of space Popularisation of space New frontiers in space and expansion into the unknown World space policies by geographic areas The introduction and the conclusion chapters provide a coherent connection between the contributions with each section presenting transversal themes such as power dynamics and rules commercialisation sustainability militarisation applications and domestic use and justice This volume will be of much interest to students of space policy and power security studies and international relations

*Understanding Space Strategy* John J. Klein,2019-03-07 This book examines the rise of great power competition in space including the relevant and practical space strategies for China Russia the United States and other countries The work discusses the concepts and writings of past strategists such as Thucydides Sun Tzu and Clausewitz in relation to warfare initiated in or extending into space This analysis underscores why polities initiate war based upon an assessment of fear honor and interest and explains why this will also be true of war in space Based upon the timeless strategic writings of the past the book uncovers the strategy of space warfare along with the concepts of deterrence dissuasion and the inherent right of self defense and outlines strategies for great medium and emerging space powers Additionally it highlights changes needed to space strategy based

upon the Law of Armed Conflict norms of behavior and Rules of Engagement The work also examines advancements and emerging trends in the commercial space sector as well as what these changes mean for the implementation of a practical space strategy Given the rise of great power competition in space this work presents a space strategy based upon historical experience This book will be of much interest to students of space policy strategic studies and International Relations

**Securing Outer Space** Natalie Bormann, Michael Sheehan, 2009-01-30 This edited volume analyses a number of controversial policies and strategies relating to Space activities and to place these in a broader theoretical perspective The book reveals the relationship between activities in Outer Space and terrestrial international relations

**The Power of the Space Club** Deganit Paikowsky, 2017-07-20 Why do nation states choose to develop national space programs How can they justify national efforts to acquire capabilities by arguing for membership of the space club This book provides a unique perspective of the past current and future of space exploration and technological development in world politics A country that sees itself as a power deserving of a seat at the table of world governance is expected to race for space Based on a rich and detailed analysis of a range of space programs of states which are not usually at the focus of world politics and its research the author shows that joining the space club is a legitimate and rational decision The book provides a different way of looking at international relations through a relatively under studied area of policy the space club

*The End of Secrecy* Beth M. Kaspar, 2001 This study focuses on military competitiveness in the age of transparency and asserts that the U S military must consciously prepare itself to fight in an information transparent world created by globalization The worldwide explosion in the quantity and quality of information and products available to the general public user the ready accessibility to the information and the affordability in acquiring any desired data or product is creating a transparent world at an alarming rate In the future anyone can affordably keep tabs on the actions of everyone else Hence the U S military must consciously begin to investigate ways to maintain its military advantage in this rapidly evolving and increasingly transparent world It must minimize the impact transparency has on how we will fight wars and conduct contingency actions We must not be caught by surprise Maintaining U S military competitiveness will require multifaceted solutions This study investigates how the U S can retain its military advantage in the coming age of transparency The inevitable economic pressure of the web or more generally information e commerce is advancing the rate of global transparency

**Meta-Geopolitics of Outer Space** N. Al-Rodhan, 2012-05-11 Al Rodhan sheds new light on the debate about the geopolitics of outer space going beyond applying traditional International Relations approaches to space power and security by introducing a multidimensional spatial framework The meta geopolitics framework includes space and expands classical power considerations to cover seven state capacities

*Security and Stability in the New Space Age* Brad Townsend, 2020-07-12 This book examines the drivers behind great power security competition in space to determine whether realistic strategic alternatives exist to further militarization Space is an area of increasing economic and military competition This book offers an analysis of actions and

events indicative of a growing security dilemma in space which is generating an intensifying arms race between the US China and Russia It explores the dynamics behind a potential future war in space and investigates methods of preventing an arms race from an international relations theory and military strategy standpoint The book is divided into three parts the first section offers a broad discussion of the applicability of international relations theory to current conditions in space the second is a direct application of theory to the space environment to determine whether competition or cooperation is the optimal strategic choice the third section focuses on testing the hypotheses against reality by analyzing novel alternatives to three major categories of space systems The volume concludes with a study of the practical limitations of applying a strategy centered on commercialization as a method of defusing the orbital security dilemma This book will be of interest to students of space power strategic studies and international relations

**New World Coming** ,1999 *Space Warfare and Defense* Bert Chapman,2008-03-19 This timely resource provides a history of the development of space weapons and warfare strategies and a comprehensive reference guide to the growing literature on the subject Space Warfare and Defense A Historical Encyclopedia and Research Guide provides comprehensive coverage of the development of space as a possible arena for warfare exploring the military uses of space past present and future and specific details of actual space weapons systems The encyclopedia spans the breadth of U S military space policy comparable programs in the Soviet Union China and the European Union and the full array of international agreements designed to regulate the military uses of space In addition the encyclopedia includes an extensive reference guide nearly 40 percent of the book directing readers to the essential literature on space weapons and defense systems produced by the United States other governments research institutions and additional sources At a time when space is becoming an increasingly important place of military competition and potential conflict Space Warfare and Defense dispels the myths and examines the realities of what may become humanity s ultimate battlefield

Power, State and Space Marco Aliberti,Ottorino Cappelli,Rodrigo Praino,2023-07-18 This book explains on what basis a nation can claim the status of space power what are the criteria differentiating a space power from lesser space actors and how their spacepower can be empirically measured and assessed To this end it sets forth a comprehensive multidisciplinary framework to enable a dynamic comparison of space actors and of the pathways that lead them in and out of the space powers club Drawing upon a critical review of the existing literature it conceptualises spacepower as a form of state power based on the complex interplay between the two defining dimensions of stateness namely the well studied dimension of capacity and the often neglected yet exceedingly important dimension of autonomy The book demonstrates that only actors possessing high levels of both autonomy and capacity qualify as space powers Different levels of either capacity or autonomy produce other types of space actors including skilled spacefarers self reliant spacefarers primed spacefarers and emerging space actors This innovative conceptual framework is complemented by an in depth comparative assessment that collects and processes a large amount of hard to find data on the most active global space actors and aggregates

multiple indicators into a compound non hierarchical index of space power visualised in the form of a matrix **US Presidents and the Militarization of Space, 1946-1967** Sean N. Kalic, 2012-04-10 In the clash of ideologies represented by the Cold War even the heavens were not immune to militarization Satellites and space programs became critical elements among the national security objectives of both the United States and the Soviet Union According to US Presidents and the Militarization of Space 1946 1967 three American presidents in succession shared a fundamental objective of preserving space as a weapons free frontier for the benefit of all humanity Between 1953 and 1967 Presidents Eisenhower Kennedy and Johnson all saw nonaggressive military satellite development as well as the civilian space program as means to favorably shape the international community s opinion of the scientific technological and military capabilities of the United States Sean N Kalic s reinterpretation of the development of US space policy based on documents declassified in the past decade demonstrates that a single vision for the appropriate uses of space characterized American strategies across parties and administrations during this period Significantly Kalic s findings contradict the popular opinion that the United States sought to weaponize space and calls into question the traditional interpretation of the space race as a simple action reaction paradigm Indeed beyond serving as a symbol and ambassador of US technological capability its satellite program provided the United States with advanced nonaggressive military intelligence gathering platforms that proved critical in assessing the strategic nuclear balance between the United States and the Soviet Union It also aided the three administrations in countering the Soviet Union s increasing international prestige after its series of space firsts beginning with the launch of Sputnik in 1957



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