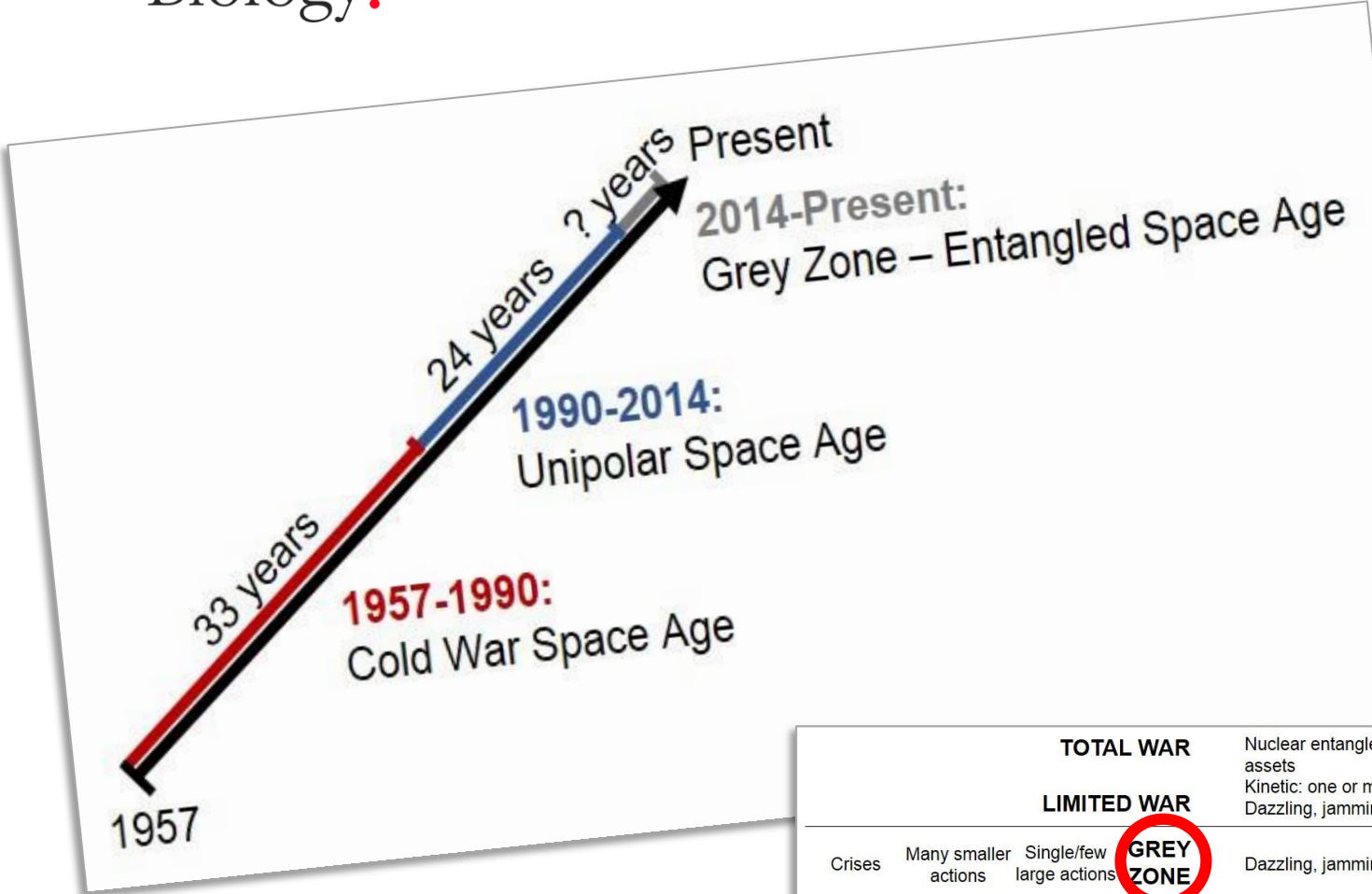






# SMA Space Panel Discussion

Outer Space; Earthly Escalation? Chinese Perspectives  
on Space Operations and Escalation

30 October 2018 1400 ET








		<b>TOTAL WAR</b>	Nuclear entangled space assets	
		<b>LIMITED WAR</b>	Kinetic: one or many targets	
		<b>GREY ZONE</b>	Dazzling, jamming, cyber etc.	
Crises	Many smaller actions	Single/few large actions		
Crises	"Normal" competition (e.g. economic competition, espionage)	<b>PEACE</b>	Espionage etc.	

Distinguishing features:

- space strategic conflict mirrors the Grey Zone conflict on earth;
- deep conventional-nuclear and commercial-military entanglement.

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Grey Zone conflict in space is necessarily limited conflict, and thus the central aim is to influence the decision-making of adversaries and other key audiences – success requires policymakers understand and wield influence in space.

Five multiples of the Grey Zone

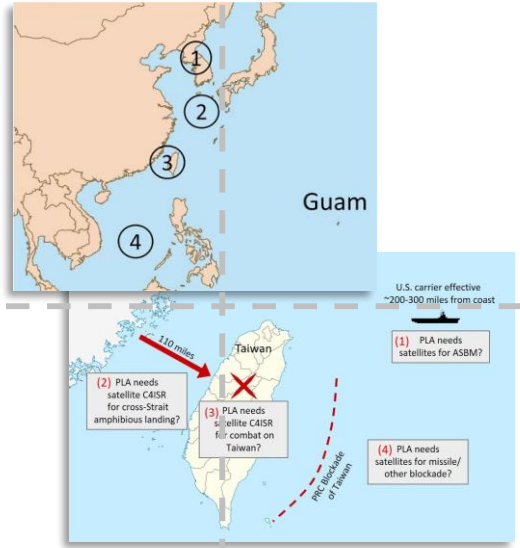
- Multiple levels (e.g. state, non-state actor, population)
- Multiple instruments of power (e.g. cross-domain actions)
- Multiple timeframes (e.g. crises, cumulative actions, norms)
- Multiple audiences (e.g. allies, neutrals)
- Multiple interpretations (ambiguity is a tool)

U.S. thinking on escalation

Chinese thinking on escalation

Deliberate, inadvertent, accidental

More deliberate



U.S. thinking on space and escalation

Chinese thinking on space and escalation

KEY FACTORS FOR SPACE	COGNITIVE FOUNDATIONS
Factors for all space powers	
Uninhabited; destructiveness	Less social motivations
Attribution; Damage assessment; Dual use; Highly classified; Reversibility	Uncertainty, risk, ambiguity
Borderless; Debris	Tragedy of the commons
Fragility; Offense dominance	Rapid decision-making
Additional US factors	
Asymmetric space dependency	“Optimism bias” and pruning.
Extended influence (including deterrence)	Ally trust and confidence.
Additional China factors	
More holistic view of space and space strategy	Cross-cultural cognitive science

Escalation ladder of deterrent actions

Context-dependence

## Bottom lines

1. Managing space operations in the “*Gray Zone-Entangled Space Age*” is not the same as the Cold War or the Unipolar US Space Age.

Grey Zone: US space policy and practice must explicitly place influence and control at the heart of space operations.

Entanglement must be managed.

2. Managing escalation in space operations is not the same as in other domains.

3. Chinese strategic thinking on space, escalation, and space escalation differs from US thinking.

MINDSPACE: Cognition in space operations (2018)

[www.nicholasdwright.com](http://www.nicholasdwright.com)

# Space and Escalation

Strategic Multilayer Assessment Panel  
October 30, 2018

Bruce W. MacDonald  
Johns Hopkins University  
School of Advanced International Studies

# Why Space Is Militarily Important

- ✦ Information is the lifeblood of today's U.S. military forces. Information generated by satellites enables weaponry to be far more effective. Just as important, it enables much better U.S. tactical and strategic decision-making.
- ✦ Communication is essential to keep decision makers in touch with U.S. forces around the world. Other countries, with lesser commitments, are not as dependent.
- ✦ If U.S. suffered a serious loss of space asset effectiveness, it would turn U.S. military from an information age fighting force to an industrial one.
- ✦ This potential Achilles heel of space makes U.S. space assets a tempting target to potential adversaries.
- ✦ Cyber weapons will play a major counterspace role
- ✦ Not so much a peacetime problem, but in a crisis there could be great incentives for an adversary to strike first, not second.



# China's Space Challenge and Its Implications

- ✦ U.S. space architecture has vulnerabilities, of which China is well aware. Important not to over-overemphasize the problem, but neither can we be complacent.
- ✦ If your alternatives are to strike first with intact forces, or strike second (“retaliate”) with surviving forces, better to strike first, especially if you believe conflict is inevitable. China’s PLA has written about this and understands the opportunities and pitfalls.
- ✦ China has developed offensive space capabilities that cannot be ignored and must be addressed.
- ✦ Satellite and other jamming has been part of conflict for years. Temptation will be to escalate gradually, if you don’t intend all-out space war. But this has risks.
- ✦ Offensive space weapons are not surgical tools. Can be great uncertainty about weapons effects, given the highly interconnected nature of space infrastructures.
- ✦ All too easy to spark rounds of unintended escalation through greater than expected weapons effects.

# Tension Between Risk Aversion and Space Offense

- Neither side would likely escalate quickly in a crisis, at least at the beginning. Risk of widespread economic damage a factor.
- Many uncertainties will confront leaders:
  - uncertain effects of offensive actions
  - unrevealed offensive and defensive weapons
  - misinterpretation of actions and messaging
  - Murphy's Law, Mother Nature, and more
  - Rapid evolution of space and cyber technologies
- Great incentives to escalate at least a little more, but where are red lines? Important to deter major conflict in space. Minor conflict (e.g., jamming, etc.) likely inevitable but urge to escalate beyond that must be deterred and resisted.
- Best way to deter is to take away incentives to attack by minimizing vulnerability of U.S. space capabilities.
- Minimizing vulnerability will be an ongoing struggle, we should expect adversary countermeasures to try to overcome what US does.
- Signaling in a crisis will play an important role but is fraught with pitfalls: how<sup>4</sup> to ensure the signal sent will be the same as the signal received?

# Key Space Observations

- U.S. depends more on space, has more to lose in space conflict than Russia or China, given U.S. global responsibilities.
- Important to deter major conflict in space. Minor conflict (e.g., jamming, etc.) likely inevitable but urge to escalate must be deterred and resisted.
- At least initially, China would likely adapt SCS type of escalation strategy, would prefer to achieve their objectives at lowest risk
- Best way to deter is to take away incentives to attack by minimizing vulnerability of U.S. space capabilities, hence effectiveness of Chinese/Russian offense.
- Minimizing vulnerability will be an ongoing struggle, we should expect adversary countermeasures to try to overcome what we do.
- Signaling in a crisis will play an important role but is fraught with pitfalls: how to ensure the signal sent will be the same as the signal received?
- Sorcerer's Apprentice problem of leaders unfamiliar with space/cyber conflict issues, background political environment

# Steps to Enhance Space Security and Reduce Instability

- Priority emphasis on developing a resilient U.S. space architecture, with back-ups as appropriate.
- Develop intelligent, non-debris-producing offensive space capabilities primarily for deterrence purposes.
- Develop measures to better exploit uncertainty and risk aversion to maintain space stability.
- Strengthen taboo on attacking nuclear-force supporting assets.
- Devise measures addressing Chinese “SCS incremental steps”
- Encourage greater U.S.-Chinese dialogue and diplomacy on space; pursue realistic agreements that address joint concerns.
- Use more extensive “crisis gaming” to better understand space crisis dynamics.

# Contact Information

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# CHINA'S STRATEGY IN OUTER-SPACE

Namrata Goswami

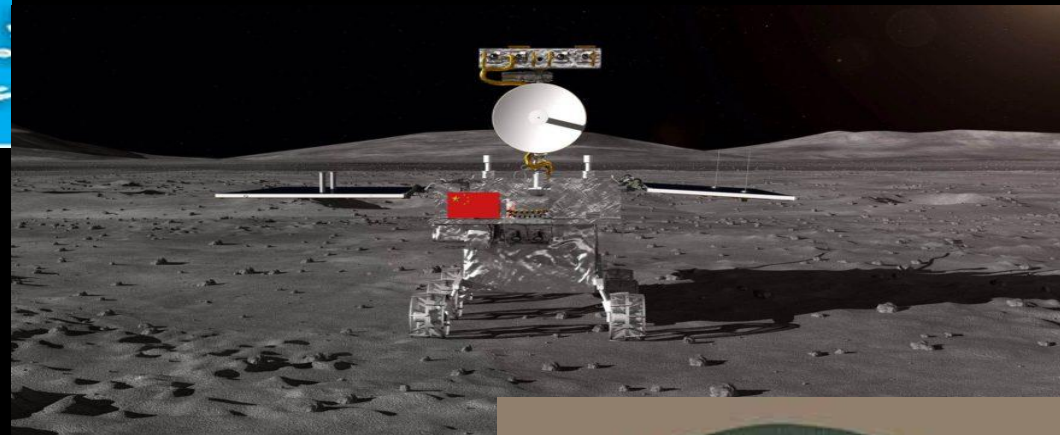
Independent Senior Analyst and Author



## ONE ROAD, ONE BELT



## CHINA'S GOALS IN SPACE



- Space Based Resources; Long Term Plan.
- Space as a Diplomatic Tool, A Component of OBOR.
- Space for Military Advantage...asymmetric capabilities.
- Build Legitimacy through collaborations with UNOOSA.





# STRATEGIC PATTERN OF ENGAGEMENT

- Establish Rationale for Presence
- Economic Develop and Historical 'First presence' narrative
- Develop Institutional Initiatives to Back Presence and Build Influence.
- Build Military Power to Back Economic Rationale.







# INITIATIVE AND OUTLOOK

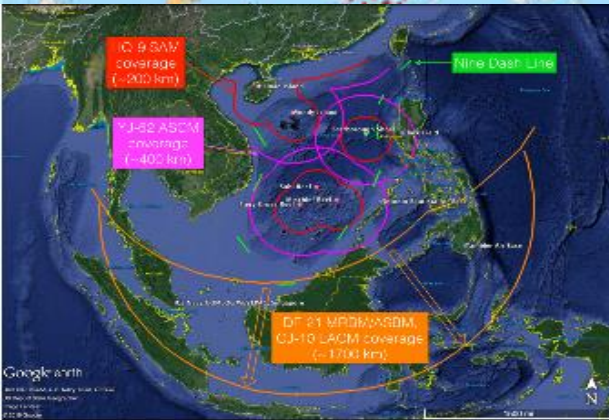
- Preparation for Taking Initiative: Case of China-India and China-Bhutan border disputes.
- Does Negotiated Agreements to Avoid Escalation of Conflicts Work?
- Deniability---someone lower down the scale?
- Unconventional Warfare Key to the Ethos of the PLA.
- PLA's Main Goal to Secure and Safeguard the CPC.
- Xi Jinping and the Strategic Support Force Speech 2015.

# CHINA'S MARITIME MILITIA; LITTORAL HYBRID WARFARE



- 21 million fisher
- 21 million fisherman and 439,000 motor boats.
- Based in Hainan province, where local communities have long-standing historical and commercial interests in the South China Sea
- Hainan's Tanmen militia, founded in 1985
- Honored by Xi Jinping, China's President
- Members oppose foreign encroachment.
- Mostly from Guangxi Zhuang autonomous region,
- Most of the maritime militia is made up of local fishermen.
- Trained by retired PLA NAVY.





# CHINA'S STRATEGIC CULTURE

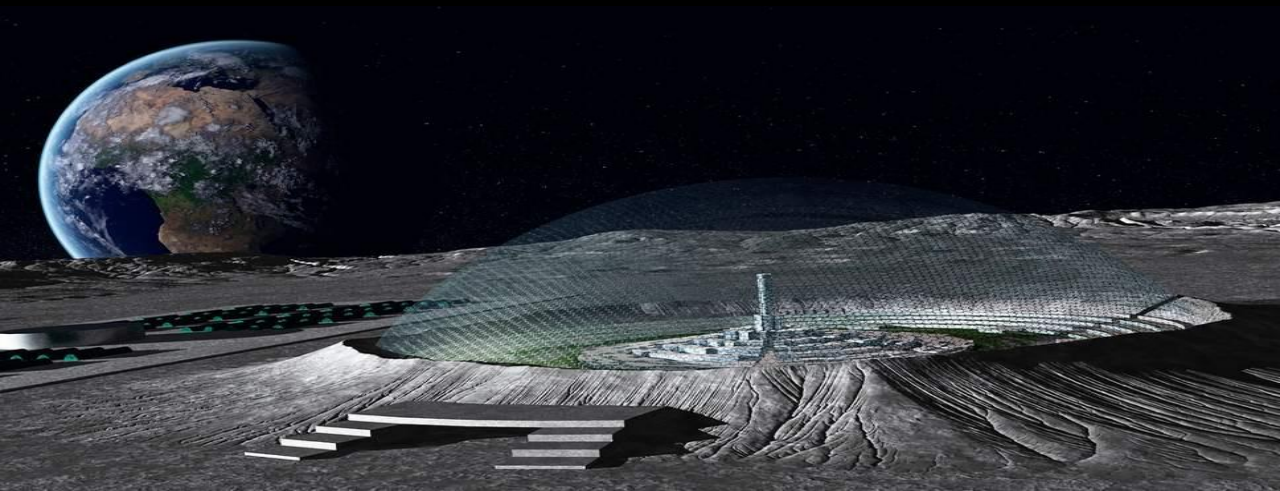
- Realism vs. Globalism
- National Interest vs. Common Heritage of Mankind.
- Will there be a scramble for Space Resources?





# CHINA'S AMBITION TO COLONIZE SPACE

- CNSA, April 24, 2018 video on Establishing a Lunar Colony
- **Ye Peijian**, head of China's Lunar Mission stated:
  - **“[t]he universe is an ocean, the moon is the Diaoyu Islands, Mars is Huangyan Island. If we don't go there now even though we're capable of doing so, then we will be blamed by our descendants. If others go there, then they will take over, and you won't be able to go even if you want to. This is reason enough”**



# CHINA'S SSF (STRATEGIC SUPPORT FORCE 2015)

- **President Xi Jinping:** the PLA *Strategic Support Force (SSF)* is an important decision made by the CPC Central Committee and the CMC to realize the Chinese Dream and the Dream of a Strong Military, and a strategic initiative to build a modern military power system with Chinese characteristics.
- Xi, **“The PLA’s SSF is a new-type of combat force to maintain national security and an important growth point of the PLA’s combat capabilities”**.
- **China Dream:** President Xi Jinping fleshed it out in the **19<sup>th</sup> Party Congress**. Rejuvenation of the Chinese nation (Includes Belt and Road Space Information Corridor).
- China’s *Beidou Navigation Satellite System (BDS)* aimed at affiliated countries.
- Xu Dazhe, Director of the China National Space Administration, the Vice Minister of Industry and Information Technology, and Director of the State Administration of Science, Technology and Industry for National Defense highlighted China’s proactive interest in the construction of a “Belt and Road’ Space Information Corridor.”
- Asia-Pacific Space Cooperation Organization (APSCO) members build the One Belt Road Initiative for Space; **Beijing Declaration 2015**.



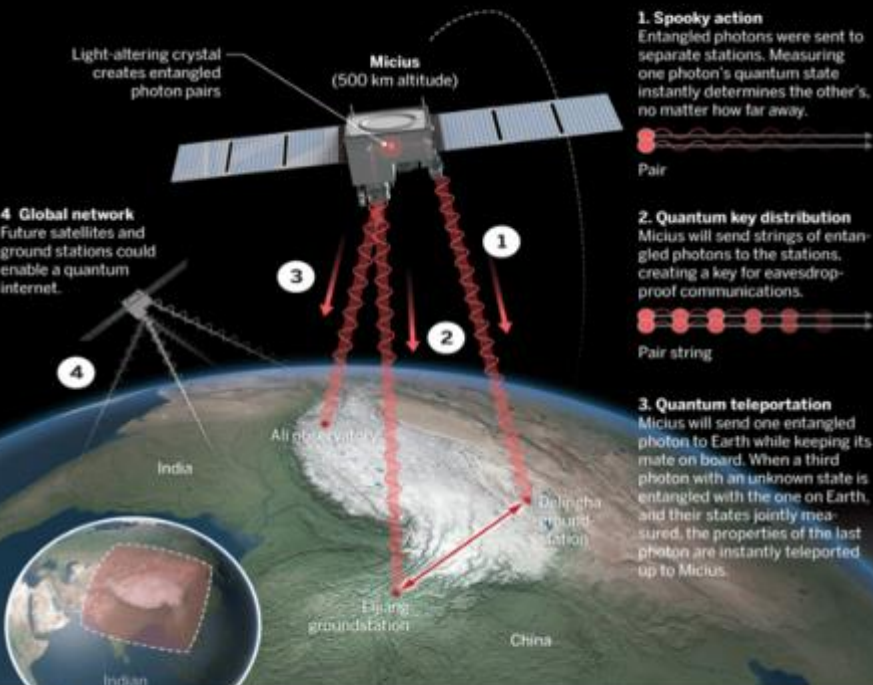
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- Yin Zhuo, Director of the PLA Navy's Expert Consultation Committee, said the Strategic Support Force's mission is to make sure that the PLA's military superiority is maintained in space and on the Internet.
- ***“To be specific, the service's responsibilities include targeted reconnaissance and tracking, global positioning operations and space assets management, as well as defense against electronic warfare and hostile activities in cyberspace,” he said. “These are all major factors that will decide whether we can win a future war.”***





**Quantum leaps**

China's Micius satellite, launched in August 2016, has now validated across a record 1200 kilometers the "spooky action" that Albert Einstein abhorred (1). The team is planning other quantum tricks (2-4).



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