Securing the Cosmos: Current International Proposals to Prevent an Arms Race in Outer Space

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Outer space is an environment that has long held the fascination of human kind and from the dawn of time we have tried to interpret its significance for us mortals down below. Recent years have brought their share of scientific and astronomical success in investigating outer space, but also a remarkable growth in the utilisation of outer space for a wide range of civilian and military purposes. Today it is estimated that there are some 1000 satellites in operation, owned by over 60 states. Importantly, no longer is exploitation of outer space the preserve of a small group of advanced industrialized states. A dozen states currently have the capacity to place an object into orbit and an even larger number own and/or operate satellites. Developing countries are increasingly to be found beside developed ones in possessing satellites and practically every country on the globe is a consumer of space-based services in some form or the other.

A vast array of functions, from remote sensing of ecological and weather activity, to communication and navigation services is being performed via space-based assets. Up until now, these assets have not been threatened from space or the ground and have been able to operate freely. This condition in turn reflects the status of outer space as a global commons: "the province of all mankind", the use of which shall be for "peaceful purposes" and "carried out for the benefit and in the interests of all countries". These quotations are from the preamble and Article 1 of the 1967 Outer Space Treaty, the most important international treaty governing outer space.[1] Its promotion of peaceful purposes in outer space is reinforced by provisions precluding national appropriation of space (thus avoiding potential conflicts over competing sovereign claims) and prohibiting the placement of any weapon of mass destruction in outer space. However the Outer Space Treaty does not specifically exclude non-WMD type weapons from being deployed in space and its "peaceful purposes" constraint has not prevented extensive military, alongside civilian, use of outer space. States have chosen to consider military use of space as compatible with the purposes of the Outer Space Treaty to the extent that this use has not entailed the deployment of weapon systems in space or the conduct of offensive action against space-based objects. Hence discussions over the adequacy of the Outer Space Treaty as the international legal foundation for regulating outer space behaviour have made a distinction between 'militarization' of space and its "weaponization". While 'militarization' has occurred for some time now, 'weaponization' has not and many states believe that it should be prevented and thereby remove the risk that outer space, like the more terrestrial environments of land, sea and air, becomes a potential battleground for inter-state warfare.

Concerns over security in outer space have animated states for some time and the issue of "the prevention of an arms race in outer space" (or PAROS in the inevitable diplomatic jargon) has been on the agenda of the United Nations General Assembly and its associated multilateral negotiating forum, the Conference on Disarmament, since the early 1980s. A resolution on PAROS has been adopted annually by the General Assembly since that period, with the latest version (A66/27) approved in December 2011 by a vote of 176 in favour, none opposed and two abstentions (the U.S. and Israel). The chief elements of the resolution affirm: i) that through PAROS, the world can avert "a grave danger for international peace and security", ii) that the current legal regime applicable to outer space "does not in and of itself guarantee PAROS" and that "there is a need to consolidate and reinforce that regime and enhance its effectiveness", and iii) the Conference on Disarmament in Geneva should "establish a working group" under its agenda item on PAROS "as early as possible". It is noteworthy as well that in the preamble of the resolution the General Assembly declares that "further measures should be examined in the search for effective and verifiable bilateral and multilateral agreements in order to prevent an arms race in outer space, including the weaponization of outer space". [2] The declared policy of the vast majority of states therefore is that any arms race or weaponization of outer space should be prevented, that the existing legal regime is inadequate to ensure this and that effective prevention will require further measures. What exactly these measures should consist of is not specified in the resolution, but there are positive references to both verifiable agreements and confidence-building measures (CBM) as means to realize the resolution's aims.

The sustained and almost universal support for the PAROS resolution suggests that states do not believe that a continuation of the current, broadly benign situation in outer space can be taken for granted. Several man-made threats to the peaceful enjoyment of outer space have recently underscored the potential vulnerability of satellites if a state decided to pursue a more belligerent course of action. The threat posed to space craft from the growing amount of space debris orbiting the globe has been receiving greater attention. The accidental collision of an active U.S. and a defunct Russian satellite in 2009 in addition to several earlier debris clouds generated by explosions of launch vehicles has contributed to increased risk through expanding the quantity of space debris in orbit. For example by the end of 2009, the total number of large and medium-sized objects greater than 10cms and tracked by the US Space Surveillance Network was 15, 096. This represented a 15% increase over the total at the end of 2008. Given the orbital speed of this debris, which in Low Earth Orbit (LEO) can attain velocities of up to 7.8km per second, even small debris items contain massive kinetic energy (a 10cm piece in LEO carries the same kinetic energy as a 35,000 kg truck travelling at a speed of 190kms/hour). Such debris poses a growing risk to space craft especially those operating in LEO.

Even more troubling than these debris-producing accidents, were the ASAT (anti-satellite weapon) tests conducted by China in 2007 and the U.S. in 2008 (although presented as an intervention required for public safety, the U.S. action in February 2008 of destroying a de-orbiting satellite demonstrated a ASAT capability irrespective of its true motivation). These tests, particularly the Chinese one which produced a large cloud of enduring debris at a high altitude, revived long-dormant fears that ASAT weapons were being developed and tested and might be harbingers of a new threat of destructive offensive action

against space-based assets. These fears had been dormant since the mid-1980s when both the USSR and the U.S. ceased testing earlier ASAT systems they had developed. Although ballistic missile defence systems designed for exo-atmospheric interceptions have an inherent ASAT-capability, the specific targeting of a satellite with a destructive "kinetic kill vehicle" as carried out in the 2007 and 2008 events broke with a tacit moratorium on such activity which had endured for over two decades. These developments if repeated or replicated by others could erode the nascent norm against space weaponization and open up the prospect of satellites being subject to destructive attack. To try and foreclose this prospect has been the objective of several diplomatic initiatives that can be grouped under the PAROS rubric.

For those states seeking a more operational response to the problem articulated in the annual PAROS resolutions, there have been basically two avenues of multilateral diplomacy to pursue. The first is the negotiation of a treaty that would preclude or regulate in some manner the use of force against objects in space. The second is the development of political arrangements, often referred to as confidence building measures (CBM) that would promote state behaviour compatible with the goals of PAROS and the non-weaponization of outer space. Both of these variants are also possible through bilateral diplomacy of course, but the "global commons" aspect of outer space makes multilateral approaches all the more pertinent and legitimate. Each of these possible avenues, treaties or CBMs, have their advantages and disadvantages, and not surprisingly the recent discussion of PAROS in multilateral forums has largely been a debate between adherents of either option.

Given the consensus basis for much multilateral decision-making, this lack of agreement over which approach would be most effective has hampered efforts to forge new norms for responsible behaviour in outer space. At the same time, concerns over the further deterioration of the operating environment in outer space including precedent-setting offensive action in space, are increasing the pressure on concerned states to overcome differences and support some preventative measures. I will now proceed to assess the four chief proposals currently before multilateral forums and suggest a way forward. These proposals are: the draft treaty on Prevention of Placement of Weapons in Outer Space formally presented by Russia and China in 2008 and known by the acronym (PPWT); the Code of Conduct for Outer Space Activity put forward by the European Union initially in 2008 with a revised version circulated in 2010; security-related CBMs such as those presented by Canada in 2009; as well as other measures which have been suggested pursuant to a Russian-led initiative within the UN to solicit ideas for Transparency and Confidence Building Measures (TCBM). The role of the United States, as the leading space-faring nation, in determining which of the above diplomatic options will likely be taken up, will also be assessed. After years of relative stasis, the diplomacy of outer space security seems poised to advance again and supplement the normative base for responsible state behaviour as currently enshrined in the Outer Space Treaty.

The Russian-Chinese Draft Treaty:

The principal treaty proposal before the international community is the Russian-Chinese draft entitled "Treaty on Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force

Against Outer Space Objects" or PPWT. It has had a lengthy gestation period since its initial introduction as a working paper at the Conference on Disarmament (CD) in Geneva in 2002. The current draft was formally presented to the CD in February 2008 by the Russian Foreign Minister, Sergey Lavrov. [3] In his remarks, Mr Lavrov stressed the fact that any weapon deployment in outer space would "inevitably trigger a chain reaction" and urged the CD to seize the initiative on PAROS as "preventing a threat is always easier than removing it". [4]

The PPWT is a spare draft with its principal objective set out in Article II which commits states parties "not to place in orbit around the Earth any objects carrying any kinds of weapons, not to install such weapons on celestial bodies and not to place such weapons in outer space in any other manner; not to resort to the threat or use of force against outer space objects;" thereby extending the Outer Space Treaty's prohibition on placing WMD in outer space to cover all forms of weapons. Although the treaty contains no verification provision it does suggest verification measures could form the subject of an additional protocol. The draft treaty also acknowledges that agreed confidence-building measures should be implemented on a voluntary basis, but does not specify any CBMs. These two points are somewhat awkwardly contained in Article VI of the draft having been put there apparently in response to earlier comments received from other delegations. The most extensive critique of the PPWT however was provided by the delegation of the United States, which submitted an official document in August, 2008 detailing a series of shortcomings and ambiguities in the draft treaty.[5] In particular the US analysis pointed to the lack of any constraints on terrestrial-based anti-satellite weapons, and the limitation of constraints on space-based weapons to their deployment. Referring to certain definitional gaps, the US paper also suggested that the PPWT would not have stopped China's testing of an ASAT weapon against its own satellite as per the January 11, 2007 event, nor prevent an ASAT test against another country's space object as long as this activity avoided physical impact. Although these questions and others would naturally be pursued in follow-up discussion of the PPWT, this has not been possible at the CD. With little prospect of the Conference overcoming its decade long impasse over achieving consensus agreement on a programme of work, there has been no official venue for taking up the PPWT. Although regretting this protracted gridlock in CD, neither Russia nor China has as yet indicated a willingness to remove the PPWT from the ambit of the CD and try to advance it in another forum.

The EU Code of Conduct:

In December 2008, the European Union presented its own proposal for reinforcing the outer space regime in the form of a "Code of Conduct for Outer Space Activities". This draft code has been the subject of extensive consultations, both within and beyond the EU and a revised version of the Code was approved by the European Council in October 2010 as a basis for further discussion with third countries. [6]Prompted by the unsettling ASAT tests of 2007 and 2008 and no doubt influenced by the PPWT and its cool reception by the U.S., the EU Code sought to pursue the path of least resistance while still aiming to complement the existing legal regime for outer space with a series of CBMs. Modelled to some degree on the existing Hague Code of Conduct for Ballistic Missiles of 2002, the EU Code is a political arrangement which by definition avoids the more binding nature of an international legal agreement. By eschewing a treaty approach, the Code also facilitates adoption as states are not obliged to submit it

to ratification processes which can be both time-consuming and politically problematic (a feature designed to appeal to Washington in particular). The Code, as indicated in its preamble, presents itself as "a set of best practices aimed at ensuring security in outer space" and "a useful complement to international space law". [7] The Code in contrast to the PPWT is an expansively written document with a substantial preamble, several general principles and a comprehensive reaffirmation of existing treaties and commitments relating to outer space activity. Many of the measures enumerated in the Code reiterate commitments already undertaken in other instruments, resolutions or arrangements. Despite frequent references to security the contents of the Code are focused essentially on safety aspects of space operations and there is no measure with a purely security character. The area where the Code breaks some new ground and potentially could contribute to strengthening outer space security is in its information-sharing, consultative and organisational provisions. Article 8 specifies an annual exchange of information by the subscribing states on, *inter alia,* "their space policies and strategies, including basic objectives for security and defence related activities in outer space". [8] Article 9 outlines a consultative mechanism, which is significantly broader than that set out in the Outer Space Treaty and which is to operate under more rigorous parameters: "working jointly and cooperatively in a timeframe sufficiently urgent to mitigate or eliminate the identified risk initially triggering the consultations". Intriguingly, the Code in Article 9.2 envisages the creation of a mechanism; staffed with international experts, to investigate incidents and provide advisory findings and recommendations (the current text however indicates that this mechanism is "to be determined at a later stage"). [9]

Under the final section of the Code, entitled "Organisational aspects" there are several more action-oriented steps which could in theory yield significant dividends in terms of enhanced confidence levels concerning outer space. Article 10 provides for a biennial meeting of Subscribing States "to define, review and further develop this Code and ensure its effective implementation" Article 11 specifies the nomination of a "central point of contact" which would seem to have the role of a secretariat with responsibility for maintaining an electronic information sharing system and organizing meetings. Finally, Article 12 stipulates the creation of "an electronic database and communications system" the exact nature of which is not clear from the text, but which would serve as a mechanism for channelling consultation requests as well as ensuring the collection and dissemination of notifications and information pursuant to the Code. [10] This collectively represents a degree of institutionalisation not found in the Outer Space Treaty and one that is unusual for non-treaty based arrangements. How such structures and mechanisms would work in practice is difficult to predict and clearly would be a function of the extent of compliance of the Subscribing States with the Code's provisions. The experience of the Hague Code of Conduct is not necessarily promising in that regard as many of its Subscribing States failed to follow through with its notification and information sharing provisions. The record on voluntary reporting and submission of information under other international agreements in the arms control and disarmament field (e.g. NPT, BWC) is also not especially encouraging. That said the possibility of more regular exchanges between states on outer space issues and the establishment of consultative processes which could be utilized for preventative diplomacy and problem-solving could help to promote responsible state behaviour and reinforce outer space security norms.

The EU has been extremely cautious in its rolling out of the Code and some less charitable observers would say quite clumsy. Earlier suggestions that an ad hoc diplomatic conference would be convened in 2011 to adopt the Code have been supplanted by longer time horizons and the whole project appeared to be adrift. More recently, EU officials have revived the initiative and an experts meeting was convened in Brussels in March of this year and another is scheduled for Vienna in June with 2013 now being mentioned for holding the diplomatic conference that would adopt the Code. A further version of the draft Code has also been promised prior to the June meeting.

The EU is understandably anxious to line-up significant international support for the Code before moving ahead to convene a diplomatic conference. It will be crucial to get the U.S. on board for the exercise and although the Obama Administration has been positively considering the Code for over three years, it has only recently come to a decision regarding the Code. That decision came on January 17, 2012 when Secretary of State Hillary Clinton announced that "the United States has decided to join with the European Union and other nations to develop an International Code of Conduct for Outer Space Activities."[11] The exact import of this statement however is not fully clear – is the U.S. partnering with the EU or appropriating the European initiative and setting it on a new path?

It would seem that the Administration, ever sensitive to its domestic political vulnerabilities, has felt obliged, in this election year, to moderate its earlier public expressions of interest in the EU Code. Political opposition to the EU Code had already been expressed in a February 2011 letter from 37 Republican Senators headed by Senator Kyl voicing concern over the Code and the fact that the Administration was not bringing it before the Congress for consideration.[12] It is also evident that other influential space-faring nations such as India, China and Brazil are sceptical about the Code and its "Made in Brussels" label. Part of the delay in the timeframe for obtaining approval of the Code can be attributed to the EU effort to pursue further bilateral consultations with the states which remain cool towards the initiative. Concerns regarding the Code which can be expected to be raised by other states, include its non-legally binding character, its lack of measures with real security content, its genesis as a EU product rather than an arrangement jointly developed in a broader UN forum and the costs associated with its institutional mechanisms which presumably are to be borne by the Subscribing States. It is not yet clear whether, in light of the long-delayed U.S. public response to the Code, the EU will now back away from its initiative and defer to Washington or sustain engagement alongside the U.S. in seeking wider acceptance for the draft Code. American officials have stressed the desirability of wide participation in the Code's preparation: "To ensure the broadest adoption and implementation of such a code – and the benefits that would entail – it should be developed collaboratively by all responsible space-faring nations."[13] Regardless of who is leading a renewed diplomatic effort, differences of view on the substance of a draft Code will continue to represent a challenge for the sponsors.

Canada's Security-related CBMs:

Canada has long been active in outer space security diplomacy and has been one of the few states to have submitted working papers and specific proposals at the CD and the UN. Building upon earlier suggestions for enhancing space security and In light of the absence of security content in the EU's draft

Code, Canada proposed in 2009 the adoption of a series of pledges by states to refrain from actions which would threaten space security. The three specific pledges were: i) not to test or use a weapon against any satellite so as to damage or destroy it, ii) not to place any weapon in outer space and iii) not to use a satellite itself as a weapon.[14] While possessing the same convenience of the EU Code's political arrangements over legally-binding ones, the Canadian suggestions addressed the core security concerns regarding the weaponization of space that had prompted the PPWT and in that sense were conceived as representing a middle course between the two other options. These ideas have not been promoted actively by the Canadian government however and there are indications that behind the scenes consultation with Washington over these ideas resulted in a cool response, leading Ottawa to quietly shelve its proposals. To be fair, the Canadian suggestions have not received much pick-up by other space powers although some NGOs have independently advocated similar steps[15].

Russia's Transparency and Confidence Building Measures (TCBM) Initiative:

The other main source of proposals relating to outer space security has emerged from a Russian-led initiative to solicit ideas for TCBMs. Since 2005, Russia has led on a resolution in the UN General Assembly calling for the submission of concrete proposals for outer space TCBMs. This resolution (the latest substantive version A/RES/65/68 was adopted by the General Assembly December 8, 2011) has received wide support and has yielded several compilations of submissions by states. Suggestions from other states have included pre-launch notifications, invitation of observers to space launches, information exchanges on outer space policy and programs and the creation of mechanism to verify outer space activities. Certain states (e.g. China and Cuba) have made the point in their submissions that TCBMs are no substitute for arms control and disarmament measures contained in legally-binding international instruments.

More significant than the national submissions generated to date, the latest resolution also authorised the establishment of a UN Group of Governmental Experts (GGE) to conduct a study starting in 2012 on outer space TCBMs and to report back to the General Assembly in 2013. The convening of a GGE has frequently been a precursor in the UN system to the adoption of more developed arrangements or instruments at a later stage. As GGEs work on the basis of consensus, the possibility of having a substantive report and recommendations will be a function of achieving agreement from amongst all the members of the GGE (usually some 15 individuals ostensibly operating in their personal capacity but normally reflecting national positions). At a minimum the activation of a GGE on the subject of outer space TCBMs will draw attention to the subject matter, even though there is no guarantee that it will be able to produce agreed and significant recommendations for action.

The U.S. on the Sidelines:

The attentive listener amongst you will have noted that the U.S. is conspicuous by its absence in this survey of the principal international proposals for reinforcing the outer space security regime. As the leading space power and a chief architect of much of the existing multilateral framework for international security, it would have been expected for the U.S. to be suggesting some measures of its

own. Policy development on outer space security has not been forthcoming from the U.S. national security establishment in recent years. There has been a lengthy transition from the Bush Administration and its belief that the existing legal order in outer space was adequate and that arms control had no place in outer space, to the new policy stance of the Obama Administration. That policy was set out in *The National Space Policy* (NSP) released by the Obama Administration in June 2010. This was a spare document and quite laconic when it came to describing what measures the U.S. wanted to see in outer space. The NSP stated that the U.S. will pursue TCBMs but provided no guidance as to what the nature of these measures should be. The NSP was even more circumspect when it came to possible arms control measures, noting that it would "consider proposals and concepts for arms control measures if they are equitable, effectively verifiable and enhance the national security of the U.S. and its allies".[16] The NSP seemed essentially to be putting the onus on others to come up with the proposals which would meet its high bar and made no particular contribution of its own to outer space arms control, suggesting continuity with the Bush Administration's aversion to such action.

The NSP was followed in February 2011 by a National Security Space Strategy (NSSS) released jointly by the Secretary of Defense and the Director of National Intelligence. This Strategy did not shed much more light on the outer space security diplomacy the U.S. would pursue. While it did call for "a stable space environment in which nations exercise shared responsibility to act as stewards of the space domain and follow norms of behaviour",[17] it provided scant guidance on how the U.S. intended to bring this about. Significantly, while the NSSS describes space as *congested, contested* and *competitive,* it fails to depict it as also an environment for *cooperative* action. Besides endorsing the notion of responsible behaviour by states in outer space, the NSSS like the NSP before it, lacked a diplomatic game plan for realising this desired state of affairs.

The closest American officials got to expounding on a diplomatic strategy was when at the press conference launching the NSSS, Deputy Assistant Secretary of Defense for Space Policy, Greg Schulte, explained that "the focus of the administration really is on promoting what we like to call transparency and confidence-building measures, which tend to be voluntary as opposed to legally-binding". [18] The only such TCBM which appeared to command any sustained attention on the part of the Administration is the aforementioned EU Code of Conduct although it was never openly embraced. This protracted "examination" of the EU Code and associated failure to publicly pronounce on it has been ascribed to reluctance on the part of the U.S. to sign up to the Code before it has garnered greater acceptance worldwide. Another explanation is that the "not invented here" character of the EU Code made the Administration leery of endorsing it, until such time as it was able to re-package the idea as an American initiative.

The Administration's drawn-out consideration of the EU Code is also conditioned by its anxiety over rousing opposition from domestic political foes as evidenced in the salvo represented by the letter of concern from Senator Kyl and 36 other Republican Senators. This concern that an Administration endorsement of the EU Code could prove to be an electoral liability may help explain the assertion in the Secretary of State's press release expressing support for an international Code, "that we will not enter into a code of conduct that in any way constrains our national security-related activities in space…"[19]

Given that all significant international security accords involve some degree of (mutual) constraint, this declaration does not augur well for devising a meaningful Code of Conduct. The protracted ambivalence over the EU Code coupled with the absence of alternative "Made in the USA" proposals, until the ambiguous announcement this January of U.S. intention to develop an International Code, suggests that U.S. outer space security policy will remain on hold over the next months and probably until well after the elections.

The political sensitivity of this subject was manifested again when the day after Secretary Clinton's announcement, Senators Kyl and Sessions and Congressmen Turner and Heck sent a letter to the President expressing concern that Congressional prerogatives were being ignored if the Administration pursued negotiation of a measure similar to the EU Code of Conduct. According to its authors, any eventual Code would engage regulations which would have implications for national security and interstate commerce in a way requiring Congressional involvement"[20] In a possible effort to fend off such an eventual challenge while not conceding Executive Branch prerogatives, the State Department in a release accompanying the Secretary's announcement stated: "The Administration is committed to keeping the U.S. Congress informed as our consultations with the spacefaring community progress".[21]

In addition to being sensitive to potential political opposition, the Administration's tepid involvement on the outer space security file to date suggests divided counsel as to the priority to be accorded this aspect of its international security policy. On the one hand, senior Administration officials are making the case for some enhanced international cooperation to sustain a benign space environment. In a recent article, Deputy Secretary of Defense Lynn has stressed the dependency of the U.S. on space systems for successful war fighting and warned that "Without them many of our most important military advantages evaporate".[22] On the other hand, the Administration seems unable to extrapolate from this appreciation of the existing outer space environment, a substantive diplomatic strategy for securing and strengthening it. The Secretary of State's ambivalent statement on the Code does not really help the Administration to get off the picket fence of outer space security policy. Declaring support in the abstract for an international Code of Conduct without promoting a specific proposal does little to advance the multilateral consideration of potential measures to reinforce outer space security. In the absence of a specific diplomatic initiative, on substance or process, the U.S. will probably be unable to ensure the enhanced cooperation and shared responsible state behaviour it is espousing in its declaratory policy.

Conclusion:

The present stasis in the global outer space security regime is unlikely to last much longer. External developments have revived the spectre of the weaponization of space at the same time as several diplomatic processes have matured. Of the diplomatic options surveyed above, and despite its clumsy handling to date, the one that seems ripest for fulfillment is the EU Code of Conduct on Outer Space Activities. This is a modest, but potentially important contribution to revitalizing international awareness of, and engagement in, preserving a space environment which permits sustained and secure access for all. The Code also has the advantage of a low transactional threshold, being a politically-binding

arrangement rather than a treaty that avoids the need for domestic ratification with its attendant delays and political challenges. The EU's own self-centered and lethargic promotion of the Code over the last few years may however have dimmed its prospects for adoption internationally. The implication that Washington may now want to assume leadership of a renewed effort to develop an International Code could effectively side-line the EU's initiative. Alternatively, the EU may gladly concede paternity for a Code if it means that the U.S. will seriously engage in promoting one, including using its influence on sceptics and those states which have been cool towards the EU effort.

Most states with an interest in outer space security would welcome having some initial stabilizing steps agreed to by the international community. The Code's relative advantage over its rivals in this regard lies more in their flaws than its strengths. The Russian-Chinese PPWT faces strong opposition from some quarters and is a victim of the general paralysis of the CD where its sponsors have chosen to consign it. Canada has failed to promote its proposed security pledges and there has been little pick up of these ideas by other states which either favour a non-weaponization treaty or a less-demanding set of CBMs. Russia has successfully built support for its general study of TCBMs in the UN context, but cannot expect to displace the EU's Code in the near term, given the fact that the recommendations of the UN GGE will not appear until 2013, and then only if a consensus agreement can be reached by its diverse membership.

In substance, the Code is far from a panacea for the current strategic vulnerabilities faced by the outer space environment. However, its promulgation, if sufficiently supported, would represent a significant step forward in strengthening the outer space security regime. In particular, it would reinforce the norm of non-interference with the assets and operations of states in outer space. The Code's institutional mechanisms could also, if implemented, create a pattern of cooperation and consultation which would be beneficial for sustaining a benign space environment. These political and indirect benefits of a widely subscribed to Code of Conduct may provide, in the near term, the best way of preventing an arms race in outer space.

[1] "Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space" Opened for signature 27 January 1967, available at http://disarmament.un.org
[2] See UN General Assembly resolution "Prevention of an Arms Race in Outer Space" A/RES/65/44 13 January 2011
[3] "Treaty on Prevention of the Placement of Weapons in Outer Space and of the threat or use of force against Outer Space objects (PPWT), CD/1839, 29 February 2008
[4] CD/PV.1089, 12 February 2008, pg 5
[5] See CD/1847 26 August 2008 for text of U.S paper
[6] "Council Conclusions concerning the revised draft Code of Conduct for Outer Space Activities" Council of the European Union, 14455/10, Brussels, 11 October 2010 (subsequently referenced as "Code of Conduct")
[7] "Code of Conduct" pg 3
[8] "Code of Conduct" pg 10
[9] "Code of Conduct" pg 11
[10] "Code of Conduct" Organisational aspects, pp 11-12
[11] "International Code of Conduct for Outer Space Activities", Department of State Press Release, January 17, 2012

[12] See Colin Clark, "Senators Warn Clinton on Space Code" *DOD Buzz*, February 4, 2011; available at www.dodbuzz.com
[13] Gregory L. Schulte and Audrey M. Schaffer, "Enhancing Security by Promoting Responsible Behavior in Space" *Strategic Studies Quarterly* Spring 2012, Vol 6 No 1 pg 14
[14] "On the Merits of Certain Draft Transparency and Confidence-Building Measures and Treaty Proposals for Space Security" Working Paper submitted by Canada, CD/1865 5 June 2009
[15] See Laura Grego and David Wright, "Securing the Skies: Ten Steps the United States Should Take to Improve the Security and Sustainability of Space" Union of Concerned Scientists, November 2010, pp 18-20
[16] "National Space Policy of the United States of America", the Whitehouse, June 28, 2010, pg 7
[17] "National Security Space Strategy" U.S. Department of Defense, February, 2011, pg 4
[18] See Transcript of DOD News briefing with Deputy Secretary Lynn and Deputy Assistant Secretary Schulte, February 4, 2011, pg 5, available at www.defense.gov/Transcripts
[19] See "International Code of Conduct for Outer Space Activities" op cit
[20] Michael Listner "Congress Draws a Legal Line in the Sand over the Code of Conduct" *Space Policy Examiner* Feb 9, 2012
[21] "An International Code of Conduct for Outer Space Activities" Bureau of Public Affairs, State Department, Jan 17,2012
[22] William J. Lynn III, "A Military Strategy for the New Space Environment", *The Washington Quarterly*, Summer 2011, pg 7