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The Physics of Space Weapons



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Host: Coppersmith

Abstract: U.S. interest in new military uses of space has increased in the past few years, driven in part by the important role satellites have played in recent conflicts. New uses of space being considered include basing weapons in space to attack targets on the ground and in space, and developing weapons to attack satellites. This has led to an international debate about how space should be used and whether such activities should be limited. This issue took on added urgency after the Chinese test of an anti-satellite weapon in January 2007. Unfortunately, many of the discussions, both by weapons proponents and opponents, reflect a lack of understanding of fundamental physics concepts that are important for the debate. This

talk will give an introduction to the current debate, and will show how basic principles of mechanics and orbital dynamics can have important implications for these issues. It will also discuss briefly our recent work on the creation of orbital debris by anti-satellite weapons.

