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Considering the Consequences of Space Warfare in the Geosynchronous Region

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Today in the United States there is a rejuvenated push for space weapons and the restraint that was exercised regarding the military use of space during the Cold War is notably absent. This talk aims to demonstrate that space is an unacceptable arena for warfare based on the notion that fragment-generating attacks in space could cause irreparable damage to the hundreds of satellites orbiting the Earth, particularly in the invaluable geosynchronous region. In an effort to highlight the drawbacks of space weapons, a simulation entitled GeoPell modelled the consequences of a kinetic energy "pellet cluster" attack initiated at the geostationary altitude. The worst-case estimate predicted by GeoPell indicated that within two years of placing the cluster of one million pellets into a retrograde geostationary orbit and subsequently dispersing the pellets with a bursting charge, almost every geosynchronous satellite would be destroyed. Thus, the technical consequences of this hypothetical space attack suggest space weapons and warfare should be avoided due to the detrimental effects such weapons would have on the orbital environment. Cooperative restraint-based measures, possibly in the form of a ban on space weapons testing and deployment, are necessary to salvage the final frontier.