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What Should Space Be Used For? Physical and Political Guidelines

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Space has long been important to the commercial, civil scientific, and military sectors, serving essential missions like communications, environmental monitoring and astronomical research, early warning of missile attack, and precision navigation. However, rhetoric, official planning documents, and funded military research programs show that the current administration has a vision for space that significantly departs from long-held norms. This new vision includes four additional missions for satellites: 1) ballistic missile defense, 2) attacking targets on the ground 3) protecting other satellites, and 4) denying other users the ability to operate in space. Such a dramatic change deserves a thorough vetting. The discussion can be organized into three main types of issues: The first are international and strategic issues, such as how space weaponization may affect national and international security and stability; and, in space, what are the roles of weapons versus treaties and cooperation? Second: how useful would space actually be for these four proposed military missions? The laws of physics and the current state of technology will strongly limit what orbiting craft can do. And third: how may these new uses of space affect other current and future users of space? And what are the proper guidelines for the equitable use and longterm stewardship of space?