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Lightning Speaker

Use of Satellite Swarms for In-Space Assembly of Large Structures

With the increased push to have a human presence in cislunar space, there is a need to construct large structures for human habitats. Structures on this scale have never been constructed outside of Earth orbit, and even those constructed in LEO (Skylab, Mir, ISS) were done so using astronauts in space. Constructing structures like the ISS in the cislunar space using astronauts would be an extremely expensive, time consuming, and high-risk task, given the distances and radiation environment involved. A more efficient and safe method would be to use a swarm of small or medium sized satellites working cooperatively to assemble a structure from prebuilt pieces, removing the risk and cost of having humans perform the assembly. This will leave more budget for astronauts to perform vital research in the outpost.