

MindaSat-1 – a 3U cubesat for STEM, peace, and science

Friday, 10 December 2021 13:40 (5 minutes)

Project Persephone aims to repeat the KickSat-2 mission, as MindaSat-1, with fixes and modifications as needed, to put up to 100 Filipino schools into orbit, each with its own Sprite “chipsat”. Two KickSat Sprite development kits have been delivered to a school in Marawi (Mindanao), a post-conflict zone. Aside from the obvious educational goals, student teams will be interfaith as much as possible, to help heal the wounds of division in Philippine society that were only widened by the Siege of Marawi. By headquartering the satellite effort in Bangsamoro, that autonomous region may not only gain in regional pride but also establish representation in the Philippines’ new space agency, to help knit the formerly-separatist ethnic Moros further into the nation even as they enjoy new independence. A repeat of KickSat-2 should also be an opportunity to conduct scientific investigations at LEO altitudes that relate to problems of space traffic management. In particular, such a mission may enhance our understanding of atmospheric gravity waves (possibly important for calculating de-orbit trajectories) and perhaps electrical (plasma) variation in the ionosphere as well, to help answer questions about how to design electrodynamic tethers to be more robust. In the meantime, Sprite-oriented curriculum elements can be developed and released under a Creative Commons license.

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Session Classification: Lightning Talks