



Contribution ID: 40

Type: **not specified**

Heat Management Solutions in the CubeSat

Wednesday, 18 August 2021 14:15 (15 minutes)

Darkness is a nanosatellite dark matter search mission (6U CubeSat) that aims at detecting Dark Matter, through making diffuse X-Ray observations from the Milky Way. The Satellite is currently in the preliminary design stage to establish a concrete design and identify all of the technical risks. In this talk I will discuss the problems related to thermal management within the electronic readout boards and the cryocooler, as well as the solutions for Darkness. As a result, we came up with mechanisms to cool down the boards and cryocooler in order to efficiently transfer the heat.

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Session Classification: Wednesday