Europa Clipper Thermal Subsystem Overview

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The Europa Clipper Mission is slated to launch in late 2024 and will be the first flight system to participate in dedicated science investigation of the Jovian moon Europa. Over the course of multiple flybys, Europa Clipper’s 9 unique instrument will characterize the moon’s ice shell, sub-surface ocean, composition, and geology. The use of solar array power and the extreme range in solar environment have required an effective and efficient thermal control of the spacecraft and its instruments. This presentation provides a walkthrough of the thermal control of the flight system and describes key challenges and solutions encountered during the design phase of the thermal subsystem.