

# “PERSEUS”, a Pegasus Explorer for Remote SEnsing and in-sitU Space science

We present “PERSEUS”, a Pegasus Explorer for Remote SEnsing and in-sitU Space science. PERSEUS instruments work together to provide all sky coverage that enables mapping and 3D reconstruction of the global heliosphere. A coronagraph (CRG) observes rapidly-changing material flow and events (CME’s) near the solar surface while all-sky visible-light imagers (ASIs) observe light from these same solar wind flows and heliospheric structures as they pass through the inner solar system. The CRG fills the inner portion of the FOV 360° around the Sun, and the four-degree separation between ASI’s two camera’s views are placed so that the ecliptic plane is viewed completely out to the near-Earth vicinity. The views join near the ecliptic poles and overlap at elongations greater than 90°. The ASIs view heliospheric structures that pass Earth most efficiently near 90° elongation and greater allowing these structures to be reconstructed and compared with measurements from the two in-situ instruments that observe plasma and magnetic fields at the spacecraft.

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