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Preliminary Geological Map of the Ac-H-8 Nawish Quadrangle of Ceres: An Integrated Mapping Study Using Dawn Spacecraft Data

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Herein we present the geologic mapping of the Ac-H-8 Nawish Quadrangle of dwarf planet Ceres, produced on the basis of the Dawn spacecraft data. The Ac-H-08 Nawish quadrangle is located between -22°S and 22°N and between 144°E and 216°E.
At the north-east border, a polygonal, 75km-wide crater named Nawish gives the name to the whole quadrangle. An unamed, partially degraded, 100km-diameter crater is evident in the lower central sector of the quadrangle. Bright materials have been mapped and are associated with craters. For example, bright materials occur in the central peak region of Nawish crater and in the ejecta of an unnamed crater, which is located in the nearby quadrangle Ac-H-09. The topography of the area obtained from stereo-processing of imagery shows an highland in the middle of the quadrangle. Topography is lower in the northern and southern borders, with a altitude span of about 9500 meters.

At the time of this writing geologic mapping was based on Framing Camera (FC) mosaics from the High Altitude Mapping Orbit (HAMO, 140 m/px) and Survey (415 m/px) orbits, including grayscale and color images and digital terrain models derived from stereo images. The first sessions of Low Altitude Mapping Orbit (LAMO, 35 m/px) images have been received as we are writing this abstract in the first half of January 2016. LAMO images represent the maximum spatial resolution images available for Ceres from the Dawn mission.

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