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**AGU FALL MEETING**

San Francisco | 14 - 18 December 2015

**P53E-2181: Preliminary Geological Map of the Ac-H-14 Yalode Quadrangle of Ceres: An Integrated Mapping Study Using Dawn Spacecraft Data**

ABSTRACT

**Friday, 18 December 2015****13:40 - 18:00***Moscone South - Poster Hall*

We are conducting a geologic mapping investigation of the Ac-H-14 Yalode Quadrangle (21-66°S, 270-360°E) of Ceres to examine its surface geology and geologic history. At the time of this writing, geologic mapping has been performed on Dawn Framing Camera (FC) mosaics from the late Approach phase (up to 1.3 km/px) and Survey orbit (415 m/px), including clear filter and color images and digital terrain models derived from stereo images. In Fall 2015 images from the High Altitude Mapping Orbit (140 m/px) will be used to refine the mapping, followed by the Low Altitude Mapping Orbit (35 m/px) starting in December 2015.

The Yalode Quadrangle is dominated by the ~300-km diameter impact basin Yalode and includes rugged and smooth terrains to the east. Yalode basin has a variably preserved rim, which is continuous and sharply defined to the north/northwest and is irregular or degraded elsewhere, and may have an interior ring structure. The basin floor includes hummocky and smooth areas (some bounded by scarps), crater chains, and a lineated zone. High-resolution images will be used to search for volcanic features on the basin floor and in association with basin structures. Yalode basin and its floor deposits appear to have been strongly affected by the Urvara impact to the west. Impact craters in Yalode Quadrangle display a range of preservation states. Degraded features, including Yalode basin and numerous smaller craters, exhibit subdued rims, lack discrete ejecta deposits, and have infilled interiors. More pristine features (including the large unnamed basin in the SE corner of the quadrangle and craters on Yalode basin floor) have well-defined, quasi-circular forms with prominent rims and in some cases discernible ejecta. Some of these craters have bowl-shaped interiors and others contain hills or mounds on their floors.


Support of the Dawn Instrument, Operations, and Science Teams is acknowledged. This work is supported by grants from NASA.


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**Day:** [Friday, 18 December 2015](#)

