

MMT ADAPTIVE OPTICS IMAGES OF VESTA IN L' AND M' DURING THE 2007 APPARITION. A.

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Introduction: We observed the asteroid 4 Vesta on the dates of UT April 28, 30, and May 1, 2007, using the 6.5-m MMO telescope with f/15 natural guide star adaptive optics and a photometer cycled periodically between L' (3.8 μm) and M' (4.7 μm) filters. Coupled with the 5.342-hr rotational period, these observations covered longitudinal intervals across Vesta of 150.7 – 240.6° (28 Apr), 67.1 – 291.7° (Apr 30), and 241.2 – 36.2° (May 1), representing almost full longitudinal coverage coupled with some overlap. The sub-Earth latitude varied between -20.2 to -20.0°; mean Earth –

Vesta distance varied between 1.27 – 1.26 AU. Figs. 1 and 2 show sample images of Vesta taken in the L' band and M' band respectively, along with corresponding point spread function observations taken on 1 May. The pixel scale is 0.03"/pixel, producing resolved images that have ~5 resolution elements across the major axis for L', and ~4 resolution elements across the major axis for M'. These data will be reduced and correlated with the southern hemisphere topography.

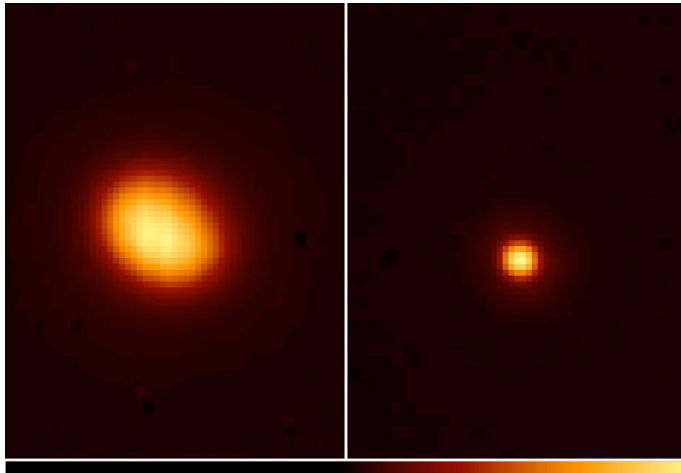


Fig. 1. L' band observation of Vesta and PSF, 1 May 2007.

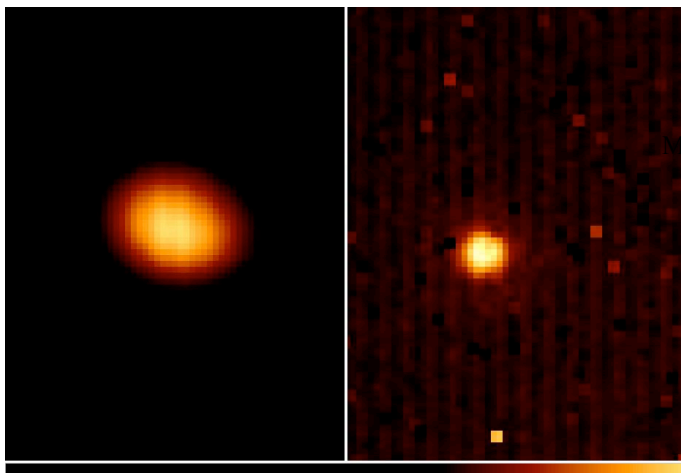


Fig. 2. M' band observation of Vesta and PSF, 1 May 2007.