Searching for Satellites of Vesta. E. A. Jensen[1], F. Vilas[2], and M. V. Sykes[2], [1]MMT Observatory/ACS Consulting (40 FM 1960 W PMB 370 Houston, TX 77373 eaj@acs-consulting.com), [2]MMT Observatory Director (PO Box 210065 University of Arizona Tucson, AZ 85721 fvilas@mmto.org), [3]Planetary Science Institute Director (1700 E. Fort Lowell Suite 106 Tucson, AZ 85719 sykes@psi.edu).

Introduction: The Megacam wide-field imager was used with the 6.5-meter MMT telescope on Mt. Hopkins, AZ to investigate the presence of satellites around Vesta. During the nights of 4-6 January 2006, 5.5 total hours of observations were collected of the 24 X 24 arcminutes of sky centered around Vesta. The figure below shows the short scan that was taken on the 4th. The images collected on the 5th and 6th used the r (616.5 nm) filter, while the 4th used the g (468.6 nm) filter.

The Hill sphere of Vesta is approximately 130 Mm or 488 Vesta radii [1]. Previous searches for satellites orbiting Vesta have been unsuccessful yielding limits on detectable satellite size. The Megacam images extend to approximately 812 Mm thus encompassing the entire Hill sphere. We will discuss our initial results and present tentative limits on the search.

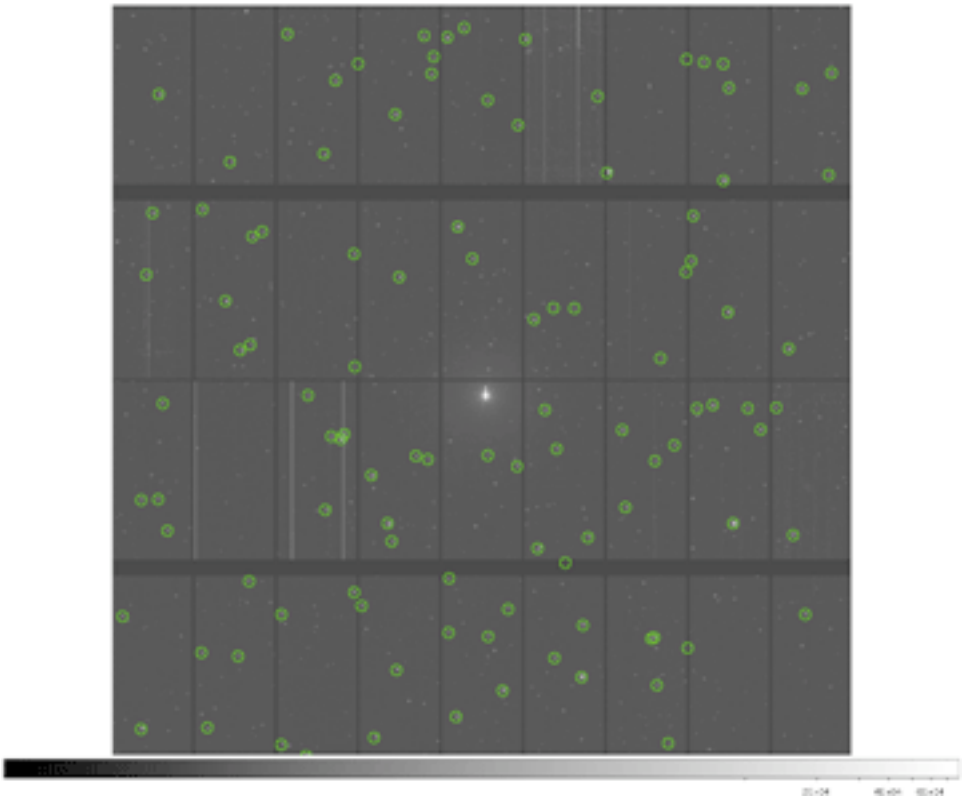

Figure: The image shows the megacam observations from January 4th with the Guide Star Catalog (version 1.2) stars circled. Vesta is the bright object in the center.

References: Use the brief numbered style common in many abstracts, e.g., [1], [2], etc. References should then appear in numerical order in the reference list, and should use the following abbreviated style:

[1] McFadden, L.-A.A., Bastien F.A., Crow C.A., Hamilton D.P., Li J. and Mutchler M.J. (2009) *AAS/ Division for Planetary Sciences Meeting Abstracts, 41,* #53.06-+.