

Oral Presentation at the Division for Planetary Science Meeting to be held in Monterey, CA, Sep.2-6, 2003.

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- Title:

Multi-color adaptive optics imaging of asteroid 1 Ceres

- Abstract:

We report Adaptive Optics (AO) J/H/K-band imaging results obtained on asteroid 1 Ceres (mean physical diameter of ~950km) with the Keck-II telescope and its near-infrared camera NIRC2 (10 milliarcsecond/pixel). The asteroid (rotation period of 9.075h) was observed repeatedly in September 2002 with a rotational sampling of ~ 10 deg. Its nearly equator-on geometry permitted imaging of most of its surface. The angular resolution provided by Keck-AO at H-band is equivalent to 60km at the distance of Ceres, which results spatially sampling its apparent disk (0.66" diameter) with more than 200 resolution elements (~16 resolution elements, or 64 pixels, along the diameter). Image restoration (Mistral deconvolution) has been applied to the data-set. The deconvolved images reveal two large albedo features (~130km diameter) that can be followed as they rotate with the asteroid. We report the preliminary results obtained on the analysis of its shape, direction of rotation axis, and location of its main geological marks. Ultimately this data set will provide a complete 3-D model for Ceres, a precise determination of the direction of its spin axis, as well as multi-color albedo maps of the surface of the largest main-belt asteroid.

ORGANIZERS

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**American Astronomical Society
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35th Annual Meeting of the Division for Planetary Sciences

of the American Astronomical Society



Monterey, California
September 2 - September 6, 2003

First Announcement
March 2003

<http://dps03.arc.nasa.gov>

INTRODUCTION

Historic Monterey, California is located at the southernmost curve of the beautiful Monterey Bay. Walking the streets of Monterey is a journey back through time. Old adobes have been lovingly restored to recall the days when Monterey was capital of the Spanish territory of California, as have those historic buildings dating from Monterey's time as California's first state capital. The history of Monterey as a sea town is evident at near-by Cannery Row, Fisherman's Wharf and the Monterey Bay Aquarium. Join us in exploring the rich history Monterey and surrounding scenic beauty by attending the 35th Annual Meeting of the Division for Planetary Sciences to be held in Monterey, California, from *Tuesday*, September 2, through *Saturday*, September 6, 2003.

This meeting is being hosted by NASA Ames Research Center.

LOCATION

The scientific sessions of the meeting will be held at the Monterey DoubleTree Hotel and plenary and poster sessions will be located in the adjacent Monterey Conference Center. Both of these venues are in the heart of downtown Monterey. A block of rooms will be available to DPS participants at special discounted rates of \$129 for single/double occupancy, and for those who qualify, at the prevailing Government *per diem* Rate. Numerous restaurants and places of interest are located within a short distance.

MEETING SCHEDULE

Workshops and committee meetings will be held on Monday, September 1. Registration will begin on Monday evening, September 1, from 6 to 9 pm in the DoubleTree Hotel and continue through Saturday, September 6. All scientific oral sessions and workshops will take place in meeting rooms at the DoubleTree Hotel. Plenary sessions will occur each morning in the Steinbeck Forum in the adjacent Monterey Conference Center. Poster will be available for viewing in the Sierra Ballroom of the Monterey Conference Center, throughout the meeting and Poster Sessions are scheduled for Wednesday and Friday afternoons.

We have planned the meeting with extended lunch breaks; 1 1/2 hours. Our evening event schedule includes NASA Night to be held on Tuesday at 7 pm and Public Night to be held at 7 pm Friday, both in The Steinbeck Forum, and a

dinner will be offered on Wednesday evening. This leaves Thursday and Saturday evenings to explore the city and its many venues and restaurants.



CALL FOR PAPERS

Abstracts of presentations are to be submitted to the AAS, by Tuesday, 1 July 2003, 9:00 pm EDT. Web-based forms and complete instructions will be available through the meeting website, <http://dps03.arc.nasa.gov> If you do not have access to the internet, contact the AAS Office for assistance. The regular rules "one paper per meeting" and "one time as non-member" apply. Abstracts will be published online, in the *Bulletin of the American Astronomical Society (BAAS)* and in the *Astrophysics Data System*. The BAAS will be distributed at the meeting. For assistance contact abs-help@aaas.org, fax: 202-234-2560 or phone Judy Johnson (202-328-2010, ext. 104) or Debbie Kovalsky (202-328-2010, ext. 107) in the AAS Office.

WEATHER

In Monterey, the average maximum temperature in September is 72°F/22°C and the average minimum temperature is 53°F/12°C. The coastal fog may arrive during overnight periods, so a sweater or jacket is recommended.

TRANSPORTATION

Downtown Monterey is a fairly small area. Parking, is at a premium. An airport shuttle serves both San Francisco and San Jose International Airports with a cost of about \$30 one way. Some commuter flights also serve Monterey Peninsula Airport; about a 10 minute taxi ride away from the hotel with an associated cost of about \$10 one way.

SPECIAL NEEDS

DPS members having special needs that must be accommodated in order to participate in the annual meeting are requested to contact the Local Organizing Committee as far in advance as possible so that necessary arrangements may be made.

REGISTRATION

A link to meeting registration will be available on the web site. The deadline for pre-registration is planned for August 2003. A late registration fee will be assessed after this date.