



The Location of the Impact Point of the Deep Impact Impactor on Comet 9P/Tempel 1

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Abstract

The Deep Impact Impactor (DII) spacecraft impacted comet 9P/Tempel 1 on July 4, 2005. During the approach, the Impactor Target Sensor (ITS) obtained a series of images that were transmitted to the Deep Impact Flyby (DIF) spacecraft before the DII spacecraft impacted. We have analyzed this series of images as well as the attitude telemetry provided by the Attitude Determination and Control System (ADCS) of the DII spacecraft to determine the most likely location of the impact point of the DII spacecraft on comet Tempel 1 as well as the probable errors of this determination.

We have also analyzed the locations of the first frames showing light from the impact in the high-rate images taken by the Medium Resolution Instrument (MRI) of the DIF spacecraft, a continuous series of images starting before the actual time of impact and continuing after the time of impact.

We will present the results of these analyses, as a basis for examination of the appropriate parts of the surface of comet 9P/Tempel 1 for changes due to the impact of the DII spacecraft.

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