The Hubble Space Telescope campaign on Deep Impact

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NASA's Deep Impact mission successfully placed a 362 kg impactor onto the surface of comet 9/P Tempel 1 at a relative velocity of 10.2 km/s on 2005 July 4 at 05:52:03 UT. The event was observed by cameras aboard the main spacecraft and by a large number of Earth-based telescopes as part of an extensive campaign to study the comet prior to, during, and in the course of several days following the impact. The Hubble Space Telescope (HST) was a major player in this campaign as the High Resolution Camera (HRC) of the Advanced Camera for Surveys (ACS) provided the highest spatial resolution images from Earth (36 km). The ACS Solar Blind Channel (SBC) was also used with a filter sensitive primarily to the ultraviolet emission from the CO Fourth Positive system to determine that the number of CO molecules produced was $\leq$10% of the number of water molecules produced. This result suggests that the volatile content of the material excavated by the impact does not differ significantly from the surface material responsible for the quiescent outgassing of the comet.