



# Water Production Rate Variation of Comet 103P/Hartley 2

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## Abstract

The SWAN all-sky Lyman- $\alpha$  camera on the Solar and Heliospheric Observatory (SOHO) satellite observed the EPOXI target comet throughout its 1997 and 2010 apparitions [1]. The water production rates, derived from the hydrogen coma distributions, were 3 times lower in 2010 than in 1997 [2]. There were very steep variations of production rate with heliocentric distance in both apparitions, typical of Jupiter Family Comets. It increased by a factor of  $\sim 2.5$  within one day on September 30 with a similar corresponding drop between November 24 and 30. The total surface area of sublimating water required to explain the production rates within  $\pm 20$  days of perihelion in 2010 was about half the mean cross section of the entire nucleus with a peak value of about 90%, implying that a significant fraction of the total water production had to come from the released icy fragments.

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## References

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