

Incoming comet ISON appears intact to Hubble

October 17 2013



Credit: NASA, ESA, and the Hubble Heritage Team (STScI/AURA)

(Phys.org) —A new image of the sunward plunging Comet ISON suggests that the comet is intact despite some predictions that the fragile icy nucleus might disintegrate as the Sun warms it. The comet will pass closest to the Sun on November 28.

In this NASA Hubble Space Telescope image taken on October 9, the [comet](#)'s solid nucleus is unresolved because it is so small. If the nucleus broke apart then Hubble would have likely seen evidence for multiple fragments.

Moreover, the coma or head surrounding the comet's nucleus is symmetric and smooth. This would probably not be the case if clusters of smaller fragments were flying along. What's more, a polar jet of [dust](#) first seen in Hubble images taken in April is no longer visible and may have turned off.

This color composite image was assembled using two filters. The comet's coma appears cyan, a greenish-blue color due to gas, while the tail is reddish due to dust streaming off the nucleus. The tail forms as dust particles are pushed away from the nucleus by the pressure of sunlight. The comet was inside Mars' orbit and 177 million miles from Earth when photographed. Comet ISON is predicted to make its closest approach to Earth on December 26, at a distance of 39.9 million miles.

Provided by ESA/Hubble Information Centre

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