

EXAMEN : baccalauréat Général – Série S –SVT ou S-SI	SESSION 2014
EPREUVE : Evaluation spécifique de Langue en section européenne	
PHYSIQUE – CHIMIE en langue ANGLAISE	
THEME : Mécanique	Sujet n°05

COMET ISON DIES AS IT ROUNDS THE SUN

Comet ISON comes in from the bottom right and moves out toward the upper right, getting fainter and fainter, in this time-lapse image.

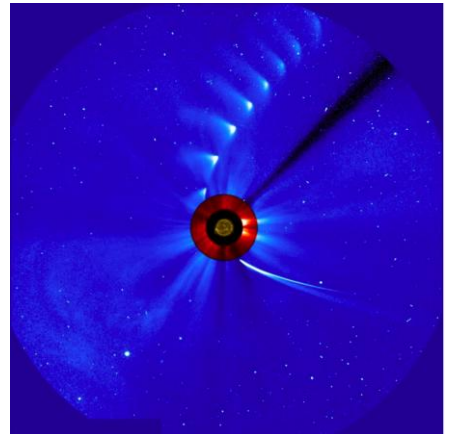


Image from the ESA/NASA Solar and Heliospheric Observatory.

Comet ISON survived for more than 4.5 billion years in the frigid depths of the solar system, but it fizzled during its brief moment in the Sun on November 2013, the 28th. The Sun's intense heat (It had been estimated that ISON would undergo temperatures of 4,900 degrees Fahrenheit (2,700 Celsius)), and — most importantly — our star's powerful tidal forces, the comet's nucleus failed to survive its brush within 730,000 miles of the Sun's surface. The side closest to the sun experiences a stronger gravitational pull than does the far side. The two sides of the comet tend to move apart because they are acted upon by different forces, and the comet breaks up

As the comet approached perihelion (its least distance from the Sun) November 28, it continued to brighten at roughly (a bright point of light trailed by one distinct dust tail and a narrow dust streamer).

As astronomers began to write their post-mortems, however, the unpredictable comet rose from the dead like the legendary Phoenix. Some 24 hours after perihelion, the revival soon began to peter out — by late on November 29, the glow had faded.

Most scientists think the nucleus of the comet has dissipated, and any remaining dust likely will be too faint to see the comet of the century.

Astronomy Magazine By Richard Talcott | Published: Monday, December 02, 2013

To peter out = faded (colours) : s'affaiblir, s'estomper

narrow dust streamer : étroite bande de poussières

Questions :

1. Present and comment on this document.
2. Focus on at least one physics topic such as the mechanical laws applied to the motion of a comet.
3. Why is it so important to study celestial bodies?