



ASTRONOMIA

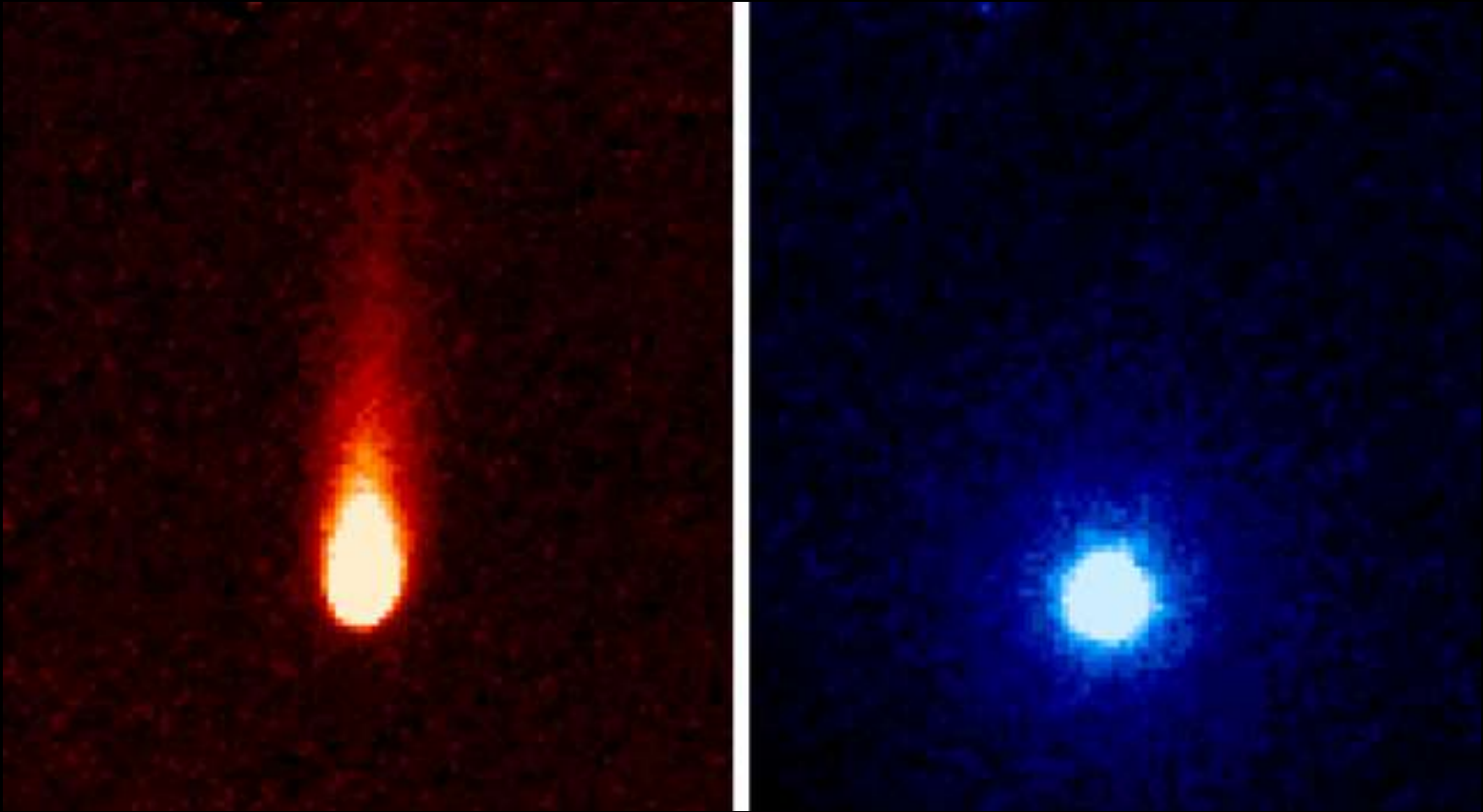
Cometas

Antonio Bernal González
13 de diciembre de 2018

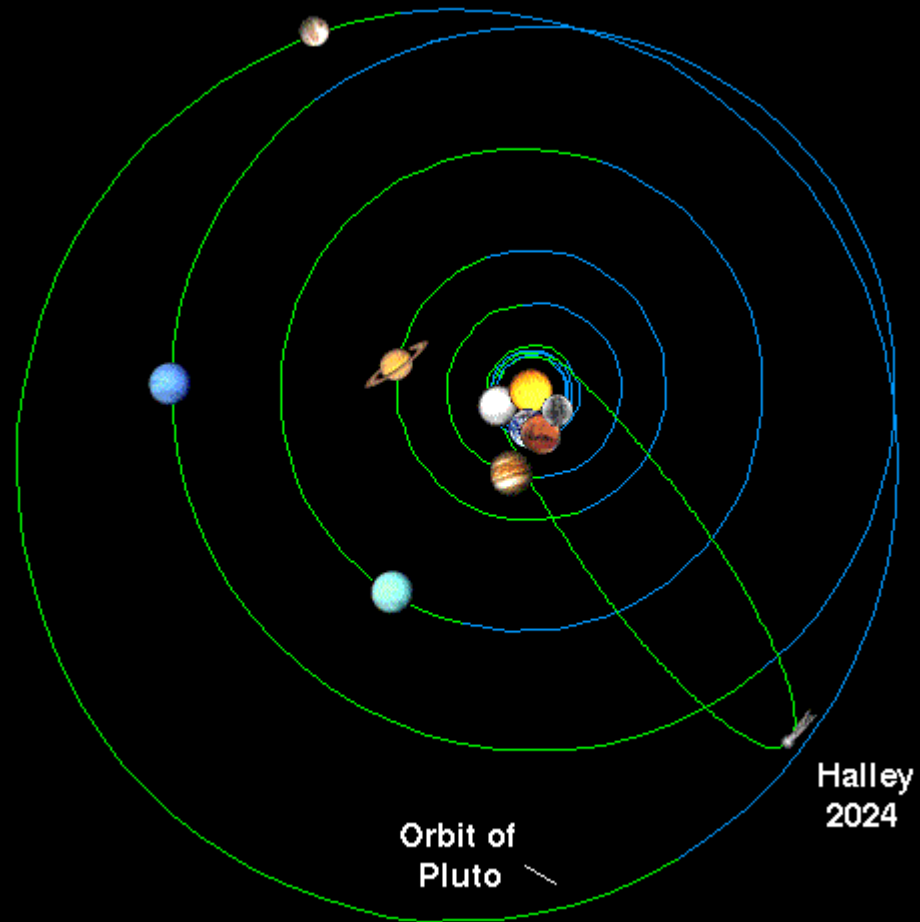
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Cometa Ison. Telescopio Espacial, abril 2013



Cometa Ison. Telescopio Spitzer, junio 2013



Órbita del cometa Halley



Dr Gerard Kuiper

Predijo la existencia del Cinturón de Kuiper



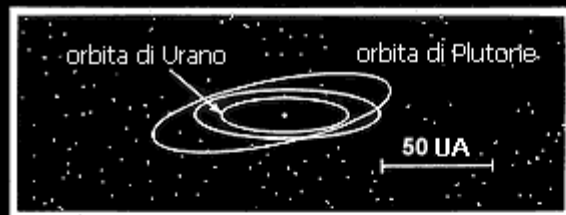
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Cinturón de Kuiper



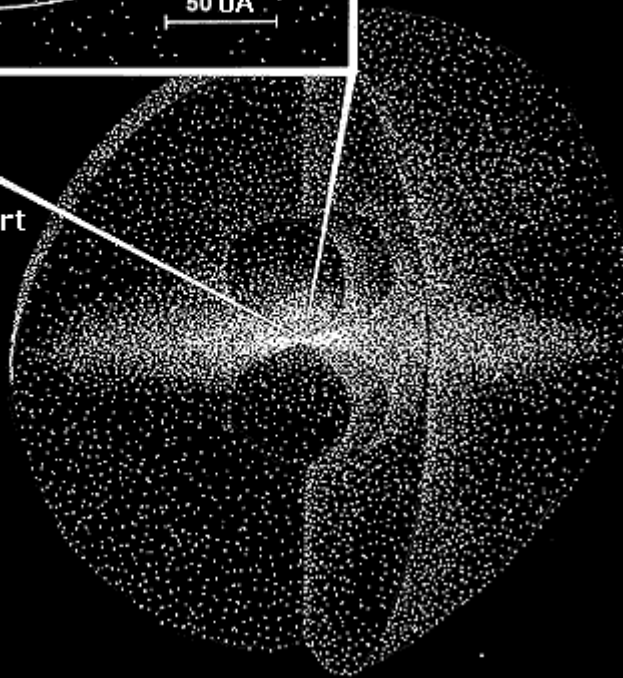
Jan Oort

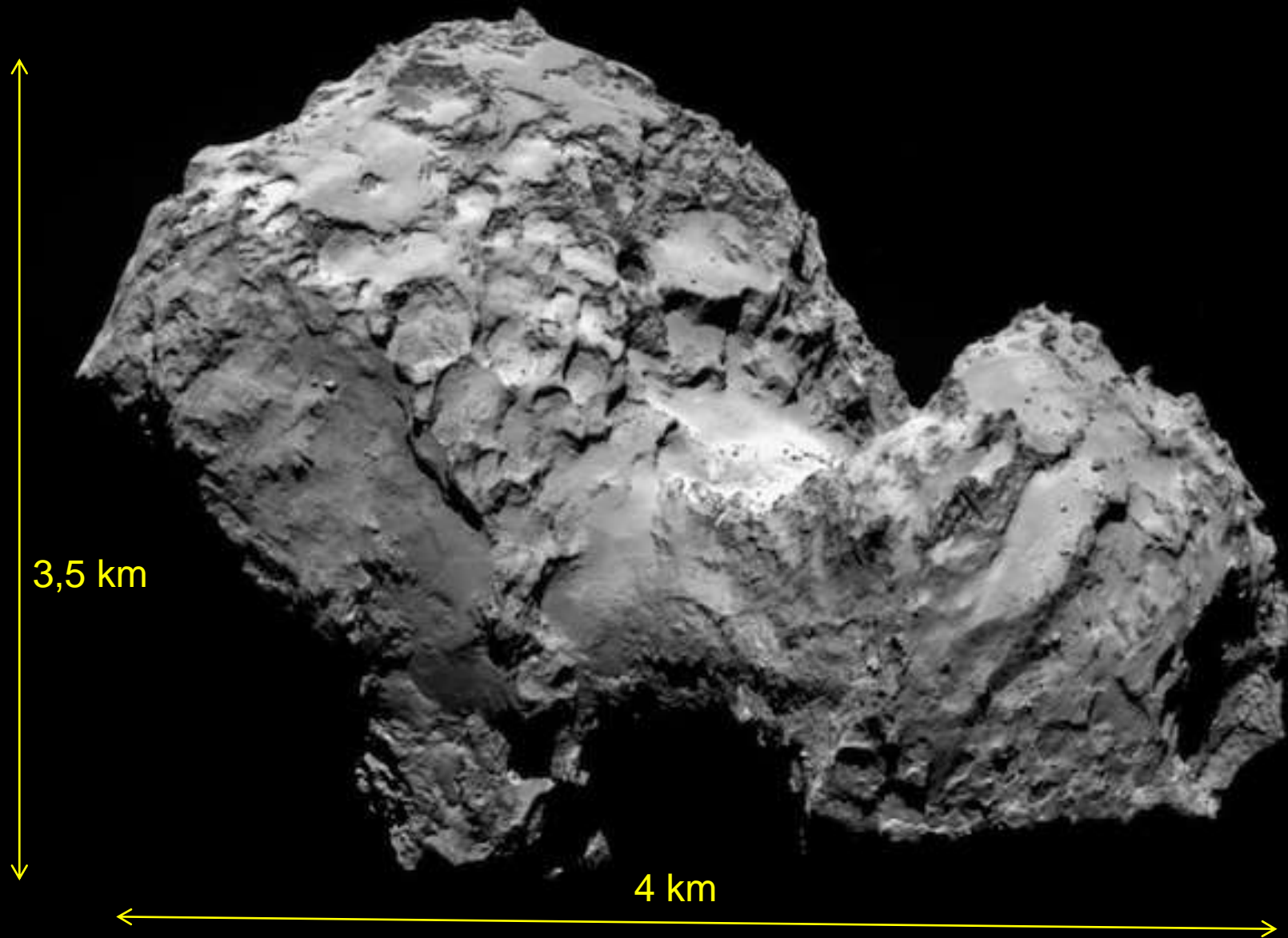
Predijo la existencia de la Nube de Oort



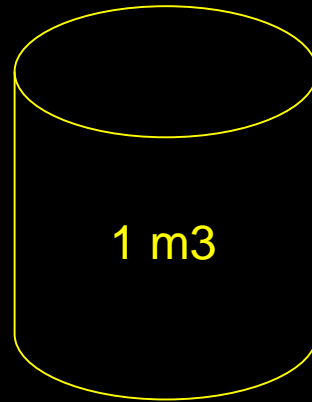
La nube di Oort

Le orbite dei pianeti sono minuscole in confronto alla dimensione della nube di Oort

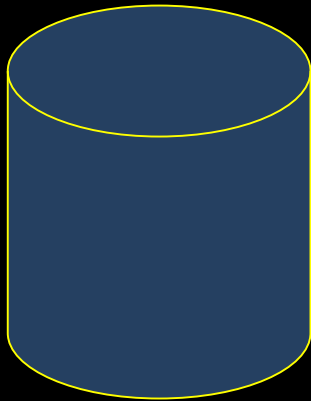




Cometa 67P Churiumov Gerasimenko



1 m³



Agua
1000 kg



Madera
750 kg



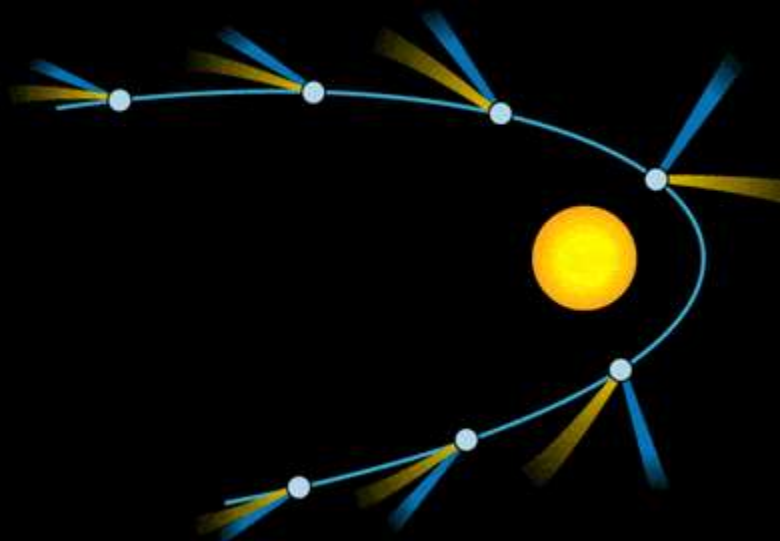
67 P
533 kg



12 de agosto de 2015
Chorros en 67P



Cometa Lovejoy



Dirección de la cola de los cometas



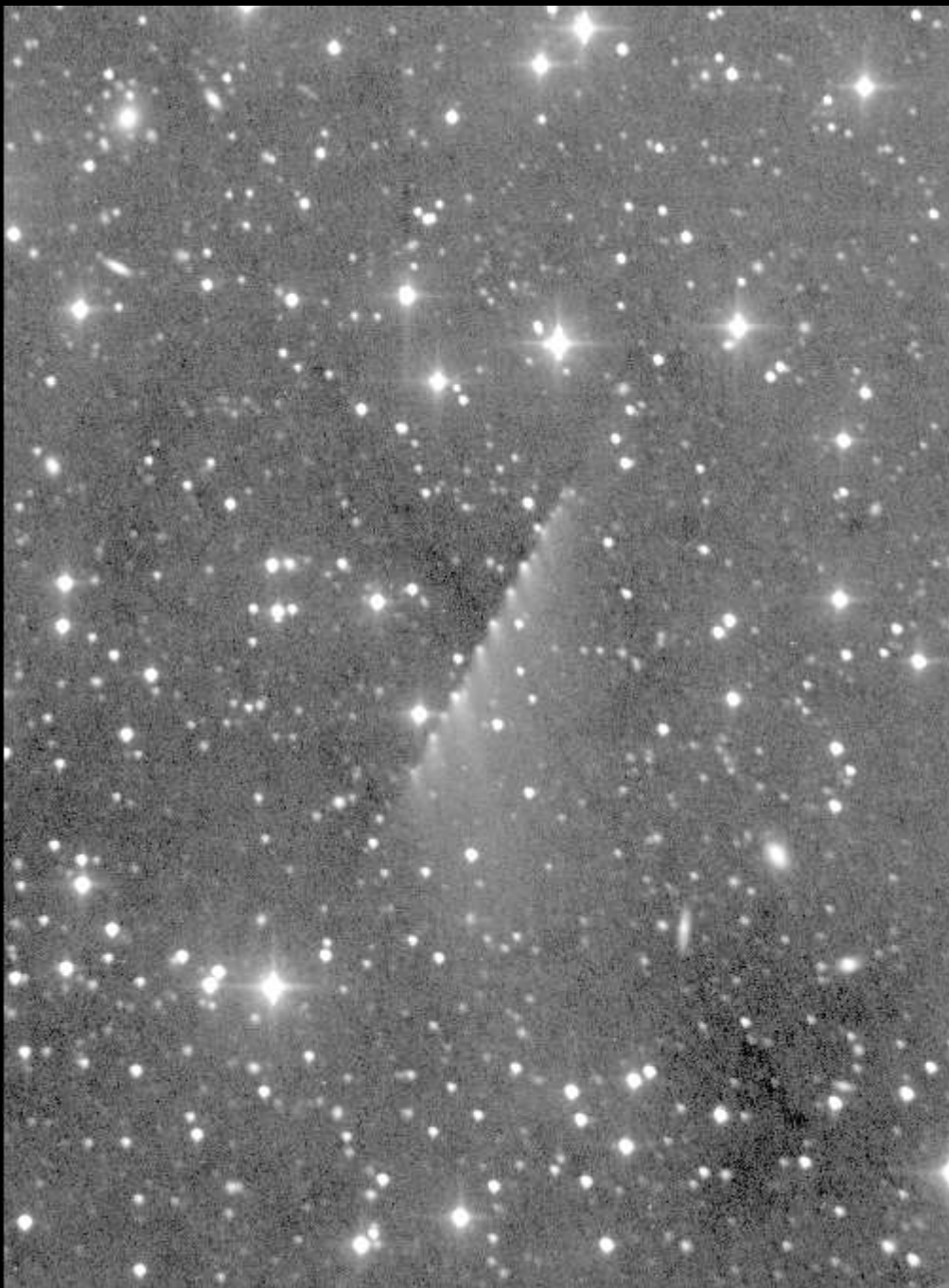
Cometa Hale Bopp en 1996

Molecule	Formula	Abundance relative to water
Water	H ₂ O	100%
Ethane	C ₂ H ₆	0.39%
Methanol	CH ₃ OH	1.58%
Cyanide	HCN	0.13%
Ammonia	NH ₃	0.83%
Acetylene	C ₂ H ₂	<0.07%
Formaldehyde	H ₂ CO	<0.11%

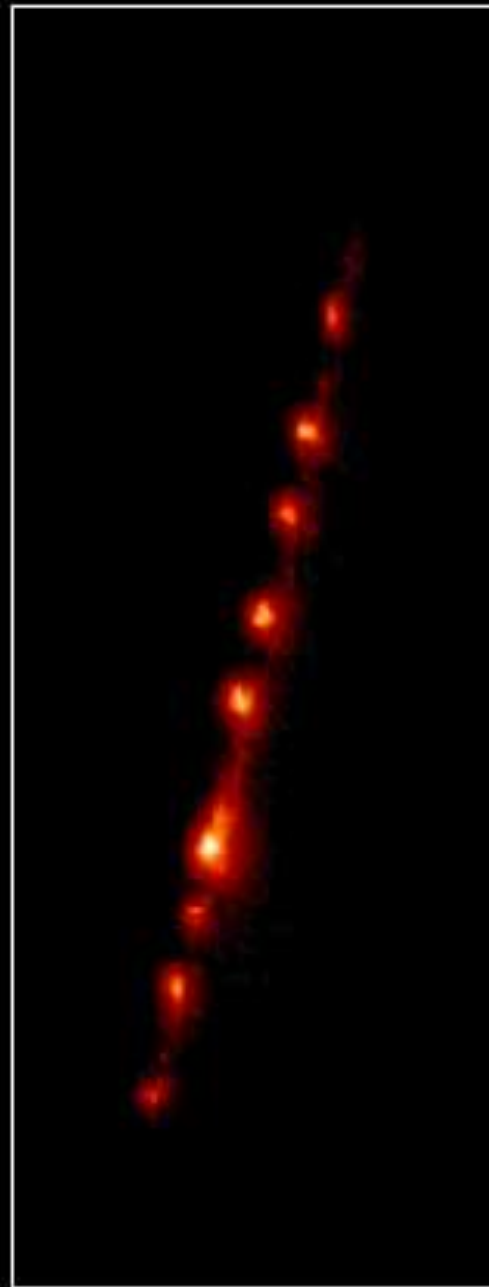
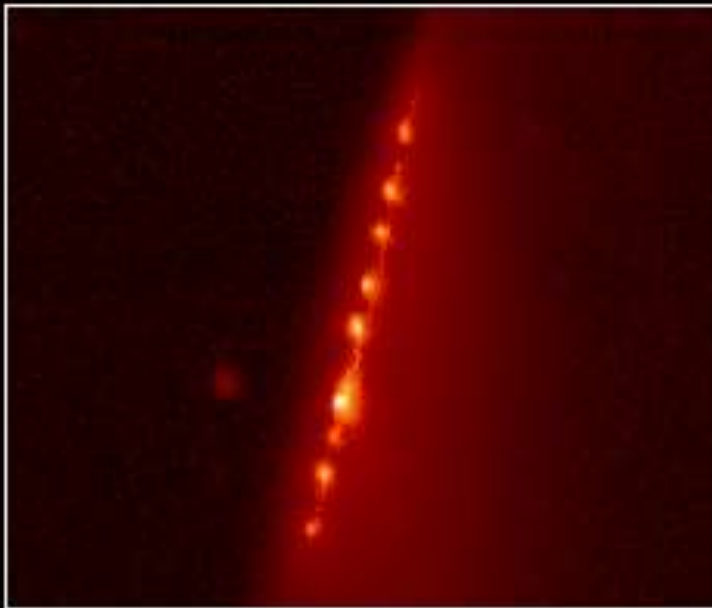
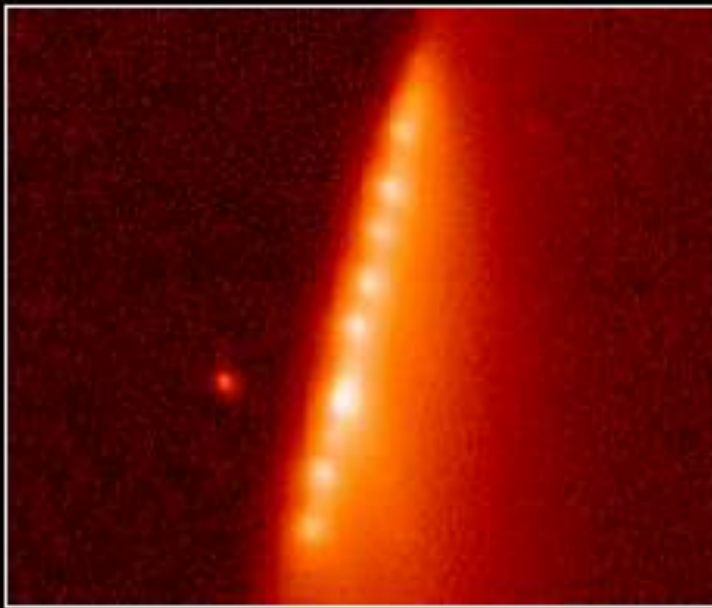
The composition of Comet 10P/Tempel 2.

Molecule	Formula	Abundance relative to water
Water	H ₂ O	100%
Ethane	C ₂ H ₆	0.98-2.9%
Methane	CH ₄	1.14-1.34%
Carbon Monoxide	CO	11.56-13.45%
Cyanide	HCN	0.35-0.37%
Acetylene	C ₂ H ₂	0.13-0.14%
Ammonia	NH ₃	1.40-1.69%
Carbonyl Sulphide	OCS	0.20%
Hydrogen Deuterium Oxide	HDO	0.89%
Methanol	CH ₃ OH	3.90%

The composition of Comet C/2009 P1.



Cometa Shoemaker Levy 9
fragmentado por la fuerza
de marea de Júpiter



Shoemaker Levy 9



Shoemaker Levy 9