Spectroscopy of Stardust reentry capsule emission as an artificial meteor

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2006 Jan 15 - The Stardust Capsule Reentry Observing Campaign has been a great success. We detected the bright fireball and obtained spectrum in the wavelength of Near ultraviolet - visual region(300-650nm) and its optical image.

We measured light identified as to come from the hot surface of the capsule, emissions from the shock and ablated carbon reacting with the Earth's atmosphere, and trace metal atom impurities in what is presumably the heat shield material.

We expect to be able to learn from this test how well the heatshield performed, what physical and chemical processes occur in natural meteors, and how origin of life, organics and water molecules, were carried from cometary dust in the early Earth.