

# **Space weathering of comets and cometary dust in the heliosphere**

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Comets are solar system bodies formed in the early history of the solar system. Most dust and gas of the solar nebula was incorporated into the sun and planets. Comets are considered to be essentially composed of conglomerates of debris from these early days of our solar system and processed by space weathering since more than 4 billion years. Cometary dust are fragments of cometary nuclei, which tend to disrupt, sometimes without giving any prior observable notice. We will discuss basic modelling of space weathering due to photons, plasma and energetic particle interaction in the brittle and porous matter and the potential implications of these models on the observations of cometary dust in present and future missions.