

## Inner source pick-up ions and cometary dust in the inner solar system

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Measurements of cometary dust composition show enhanced abundances of light elements, C,H,O,N, compared to typical meteoritical material generated from asteroids. This points to the existence of organic compounds in cometary dust. Recently established models to describe the light scattering properties of cometary dust also account for the presence of organics and also agrees with the composition of interstellar dust as the initial material. Our studies of the near solar dust cloud have shown that it is most likely locally refilled by collisional fragmentation of cometary meteoroids. We show that the collisions vaporize parts of the dust material. The dust material contributes to the inner source pick-up ion population in the solar wind that was discovered during the Ulysses space mission. If our model for the generation of pick-up ions is correct, then the measurements imply that cometary dust contains organic refractory compounds that can survive high temperatures in the vicinity of the Sun.