



Comets as imperfections in a nearly perfect solar system

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Comets are solar system bodies formed in the early history of our solar system. Most dust and gas of the solar nebula was incorporated in the sun and planets. Comet nuclei are considered to be essentially composed of conglomerates and are composed of the debris and rubble from these early days of our solar system. These fragmentary ensembles have been sturdy structures in the outer solar system since more than 4 billion years. On the other hand, cometary nuclei are the heavenly bodies, which tend to disrupt into fragments, sometimes without giving any prior notice. We will discuss basic modelling of fracture in brittle and porous materials and the potential implications of these theories on the understanding of cometary bodies.