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Comparison of some features of comets 1P/Halley and 67P/CG

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Direct study of cometary nuclei which began 30 years ago shows the diversity of origin processes, the nature of cometary bodies, their comas and the areas of their origin. It may be noted that the frequent assertion that the study of physics and evolution of comets speed up the study of fundamental questions about the origin of the solar system, is a bit naive. On contrary, it reveals all the new processes that complicate our notion on the origin of the solar system. Comparison of the most detailed studied comets, as comets 1P/Halley and 67P/Churyumov-Gerasimenko, points to significant differences in their physical and chemical properties, dynamics and evolution. Researches of their properties and shapes showed that part of the cometary nucleus may be a result of low-speed collisions of planetesimals. The hypothesis of the origin of the cometary nucleus as a result of collisions of planetesimals has long been known, but it is 67P/CG comet that gave it relevance. The report shows that in some cases the geometry of the cometary nucleus retains some information about processes of collision and allows finding the momentum of the impactor.

Biography

Leonid Ksanfomality has completed his PhD from the Georgian National Astrophysical Observatory and Post-doctoral studies from the Space Research Institute, Moscow. He is the Main Researcher, Planetary Physics department at Space Research Institute, Moscow. He has published more than 300 papers in reputed journals and has been serving as an Editorial Board Member of scientific journals.

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