

[S005] Prospective subgroups of the SOHO sungrazing comets

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A Sungrazing comet is a comet that passes extremely close to the Sun at perihelion. Around 1200 sungrazing comets have been discovered on coronagraph images from the SOHO (Solar and Heliospheric Observatory) spacecraft since 1996. Up to date, the major subgroups orbiting around the Sun in similar orbits are named as Kreutz, Meyer, Marsden, and Kracht families. About 85% of SOHO comets belong to the Kreutz family with perihelion distances of less than  $\sim 3 R_{\odot}$ . The distributions of perihelia and the orbital elements of SOHO sungrazing comets are analyzed. We investigate the closely spaced pairs and clusters in the orbital element state space. Here, we suggest six prospective subgroups of the sungrazing comets.

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