

### How Did Initial Conditions Affect the Collisional Evolution of TNOs Populations?

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Trans-Neptunian Objects (TNOs) are the remanent of the collisional and dynamical evolution that sculpted the original population of the Edgeworth-Kuiper Belt, from its origin to its current structure.

The variety of physical and initial conditions under which these processes could have taken place produce different possible final distributions of size/mass for TNOs.

We have developed a numerical model of the evolution of TNOs populations, based on the physical processes taking place in such a collisional system and including the known physics of fragmentation and reaccumulation of bodies formed by ice and rock. The equations of evolution of the populations of objects that interact with each other are solved numerically.

The model takes into account the orbital parameters of the different regions of TNOs (Plutinos, Classical Disk and Scattered Disk) to define the volumes in which the evolution takes place, different distributions for relative velocities, the mutual interactions between the three regions and the effects of planetary migration during the final formation phase of this part of the solar system.

This contribution presents some of the results of this model, with special emphasis to the study of the influence of different initial conditions on the overall collisional evolution.