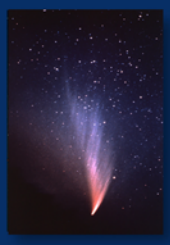
Summary Information Sheet

# Kuiper Belt and Oort Cloud

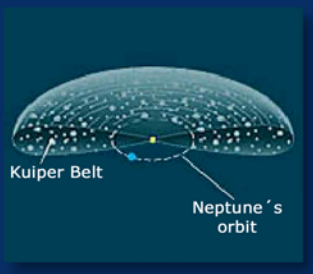
The disk-shaped Kuiper Belt is located outside Neptune's orbit and contains thousands of icy bodies, known as "Trans-Neptunian Objects (TNO's)". Some measure more than 1000 km and some move in highly elliptical orbits. Much further out, a vast number of icy comet nuclei form the Oort Cloud, a spherical halo around the solar system. The comets we observe in the inner solar system originally come from the Kuiper Belt or the Oort Cloud.



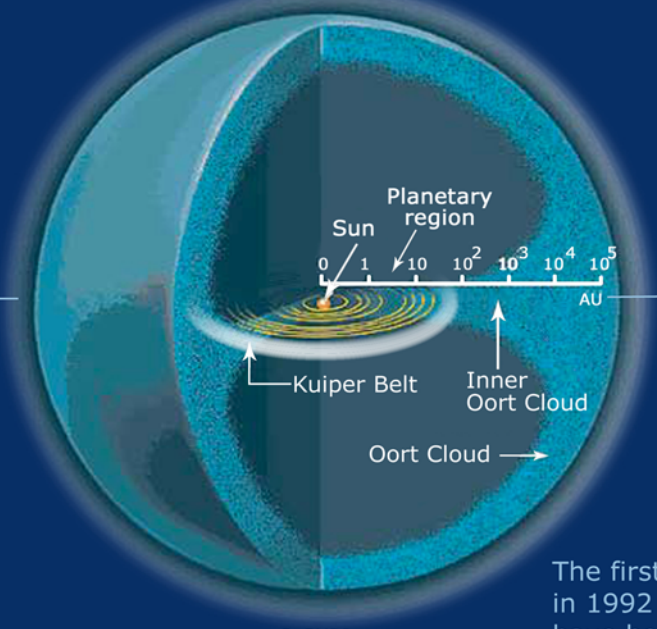
Comets come from the Oort Cloud or the Kuiper Belt

Oort's Cloud is named after the Dutch astronomer Jan Oort who described it in 1950

The Kuiper Belt is also referred to as the Edgeworth-Kuiper Belt after astronomers Kenneth Edgeworth and Gerard Kuiper




This comet sphere was proposed in 1950 by the Dutch astronomer Jan Oort

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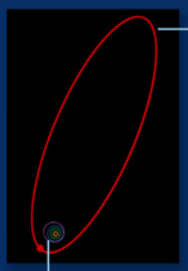
Pluto and its moon Charon, and possibly some of the moons of the outer planets are similar to TNO's

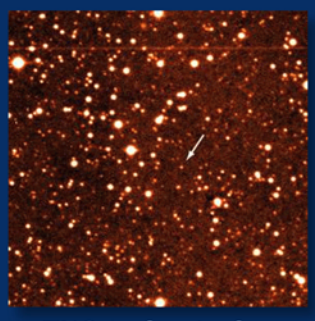
1 AU= 150 mio km

Some TNO's have moved inwards and are now found in orbits between Saturn and Neptune – they are known as "Centaurs"



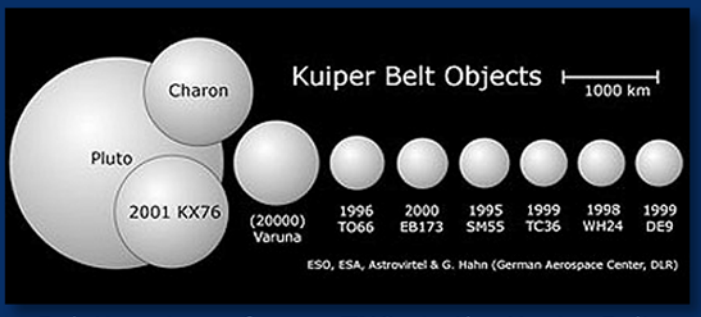

TNO "Sedna", the most distant solar system object known, moves in a highly elliptical orbit. Closest point to the Sun is 11,250 mio km and the orbital period is about 10500 years

The first TNO was discovered in 1992 and more than 1000 TNO's have been observed until 2005



TNO in front of a stellar field

TNO Quaoar (Artist's impression)




Relative sizes of some TNOs in the Kupier Belt

## Physical Data

| Property | Kuiper Belt | Oort Cloud | Pluto |
|---|---|---|---|
| Distance from the Sun | 4500 – 7500 mio km | 7.5 – 15 $10^{12}$ km | 5966 mio km |
| Main characteristic | Disk-shaped, TNOs | Spherical, Comet nuclei | - |
| Number of objects | > 10,000 | > $10^{12}$ | - |
| Mass | ? | ? | 1.3 x $10^{22}$ kg |
| Density | ? | ? | 1100 kg/$m^3$ |



Concept: Bernhard Mackowiak