

The DAWN MISSION: Understanding the Origin of the Asteroids

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The DAWN mission is aimed at providing a wealth of fundamental information concerning the two “giant” asteroids (1) Ceres and (4) Vesta.

According to current ground-based data, these two objects are thought to be radically different, and offer a nice example of the huge variety of physical properties characterizing the asteroid Main Belt population. In particular, (1) Ceres, the largest existing asteroid, is thought to be a mostly primitive object, whereas (4) Vesta is the best example of an asteroid science is to understand how and why these two objects, which are orbiting at fairly similar heliocentric distances, can be so different. In turn, this question is related to our understanding of the early phases in Solar System’s history, when the planetary growth took place in the protoplanetary disk. In situ exploration of Ceres and Vesta by DAWN is expected to provide new fundamental data, and to open possibly new paths to theoretical investigations.