Fokker-Planck modeling of asteroidal transport

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We investigate the applicability of a kinetic description for asteroidal transport, through a single diffusion equation of the Fokker-Planck type. This approach is based on the assumption that a suitably calculated "local" diffusion coefficient can be used to describe the evolution of the asteroids' elements, mainly the eccentricity, even in places of the belt where chaotic motion is not dominant. We calculate numerically the diffusion coefficient in different parts of the outer belt (beyond the 2:1 resonance), in the framework of the 2-D elliptic restricted three-body (and four-body) problem(s). The corresponding *boundary-value problem* (assuming that Jupiter-crossing orbits are ejected from the Solar system) is solved. The escape statistics resulting from this formalism are compared to those coming from long-term numerical integration.