Astéroids & local tests of GR —

The satellite will observe many asteroids including about 1600 Near Earth Objects (NEOs), main belt asteroids, Jupiter Trojans and objects beyond the orbit of Saturn. Test of GR can be obtained through the determination of PPN parameters among others.

In particular one can derive:

➢ PPN $\beta$ (simultaneously to $J_2$)
➢ Solar quadrupole $J_2$ (no stellar model)
➢ Variation of G (from $(GM_*)/dtt$)
➢ Link of reference frames, dynamically non-rotating (SSO) to kinematical one (QSO)

Lense-Thirring effect:
➢ test of possible bias from LT, ongoing work

Future work will involve:
➢ combination with other high quality data (Hipparcos, radar [2]) over longer time span
➢ test of SEP from motion of Trojans asteroids [3]
➢ testing alternative theories [4]

References — bibliography