Date	East bias	North bias
2015-02-17	0.175″	0.025″
2015-02-26	0.175″	0.00″
2015-02-27	0.16″	0.00″
2014-03-19	0.145″	0.04″
2015-03-20	0.155″	0.035″
2015-03-24	0.13″	0.045″
2015-03-26	0.145″	0.055″
2015-04-22	0.10″	0.12″
2015-04-28	0.06″	0.125″

Table 4: Astrometric corrections for the Mauna Kea post-encounter astrometry. These corrections are obtained by extrapolating to the limit of zero-sized aperture and were added to the positions reported to the MPC.

the encounter (see Table 3).

To quantify the discrepancy between the pre-encounter solution and the post-encounter data, we measured how much extending the data arc after the encounter changes the orbital solution. As shown by the fourth row in Table 5, there is a statistically unacceptable $>10\sigma$ correction from the pre-encounter best-fit solution to the full arc best-fit solution.

3.3. Dynamical models

The observed discrepancy points to the need of refining the nongravitational perturbation model. The Marsden et al. (1973) model does a good job at fitting the pre-encounter observations of C/2013 A1, actually none of the other models discussed below improves the fit to the pre-encounter arc. However, this model proves inadequate as the trajectory is further constrained by post-encounter data.