tion rate and concluded that spacecrafts were unlikely to be affected by the Mars flyby of C/2013 A1. Moreover, these studies predicted the fluence peak timing as well as the direction of the incoming dust to inform the rephasing of the spacecraft orbits. As expected, no damage was reported.

Along with the potential hazard, the close encounter between Mars and C/2013 A1 represented a unique scientific opportunity: never had a long-period comet been observed at such small distance. The instruments on board of the Mars orbiting spacecrafts could be used to collect valuable observations of the comet and for the first time allow one to resolve the nucleus and rotation period of a long-period comet.

The goal of observing C/2013 A1 during the Mars encounter posed strict requirements on the ephemeris accuracy. While the Mars Reconnaissance Orbiter (MRO) High Resolution Imaging Science Experiment (HiRISE) camera has a very large field of view capability (McEwen et al., 2007), only a small portion of its field of view, 4 mrad $\times$ 4 mrad, could be used for comet observations because of data handling limitations. This translates to a 280 km error tolerance at a distance of 140,000 km. Meeting these requirements was not an easy task as comets are famously difficult to predict.[1] As a matter of fact, because of comet tails and outgassing, comet astrometric observational data are not as clean as for other bodies, e.g., asteroids. Moreover, nongravitational perturbations often limit the capability of providing accu-

[1] *Comets are like cats; they have tails, and they do precisely what they want*, David H. Levy