

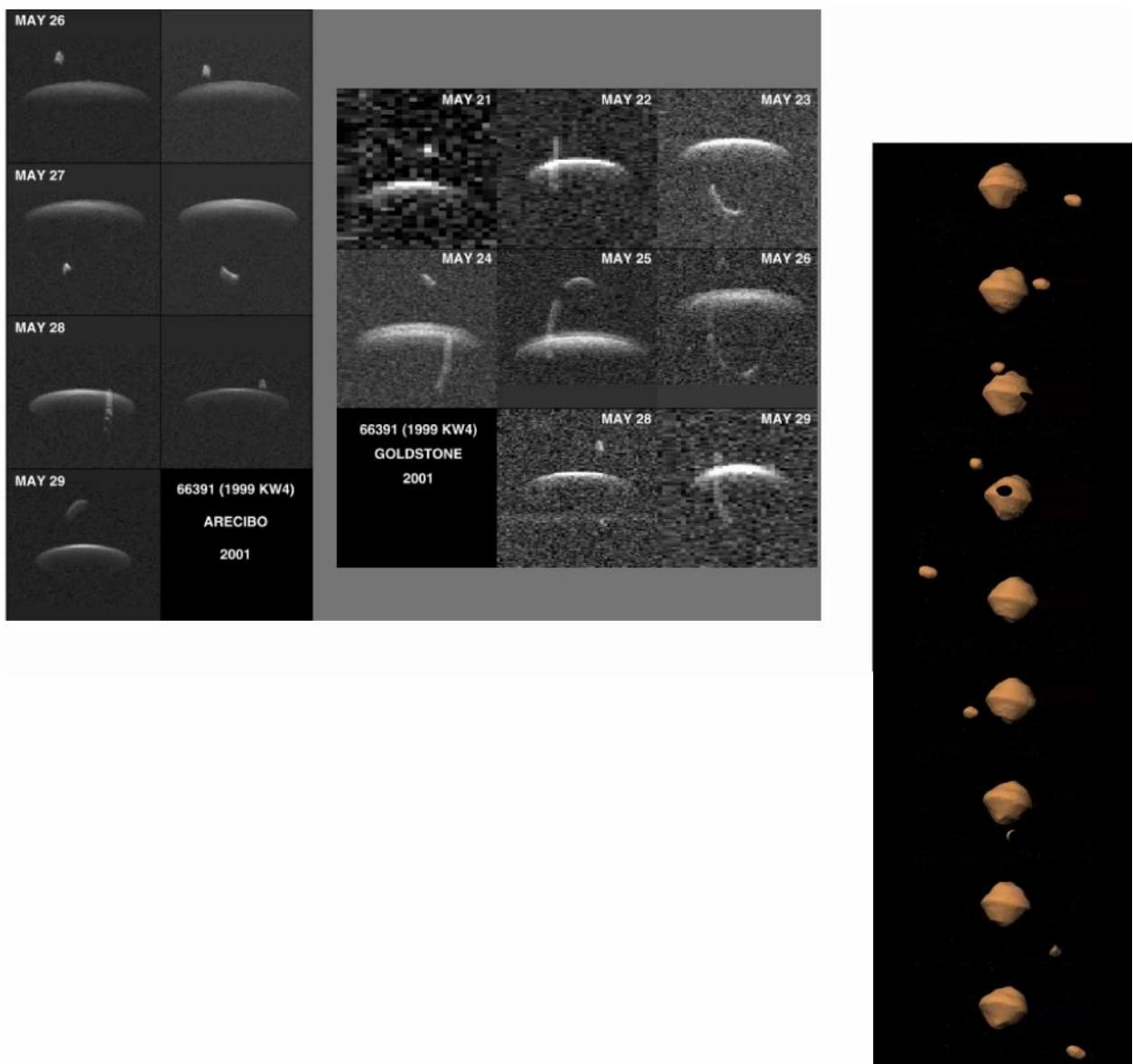
Actual and potential radar information about binary NEAs: Perspectives from the KW4 investigation

Steven J. Ostro (JPL/Caltech)

The KW4 investigation produced our most detailed physical information about a small-body binary, revealing novel physical phenomena and a new realm of complex dynamics.

It used a radar dataset superior to any of the 21 other binary NEA radar datasets obtained to date plus optical lightcurve and astrometric results, and its five years of analysis proceeded in a manner radically unlike that in previous radar experiments.

The community deserves to be aware of the factors that led to the success of the KW4 investigation, the potential information extractable from other existing binary NEA radar datasets and what is necessary for optimization of future binary NEA radar experiments, as well as implications of the KW4 results for spacecraft exploration of binaries.



References:

Radar Imaging of Binary Near-Earth Asteroid (66391) 1999 KW4. S. J. Ostro, J.-L. Margot, L. A. M. Benner, J. D. Giorgini, D. J. Scheeres, E. G. Fahnestock, S. B. Broschart, J. Bellerose, M. C. Nolan, C. Magri, P. Pravec, P. Scheirich, R. Rose, R. F. Jurgens, E. M. de Jong, and S. Suzuki (2006). *Science* **314**, 1276-1280 (DOI: 10.1126/science.1133622).

Dynamical Configuration of Binary Near-Earth Asteroid (66391) 1999 KW4. D. J. Scheeres, E. G. Fahnestock, S. J. Ostro, J.-L. Margot, A. M. Benner, S. B. Broschart, J. Bellerose, J. D. Giorgini, C. Nolan, C. Magri, P. Pravec, P. Scheirich, R. Rose, R. F. Jurgens, E. M. de Jong, and S. Suzuki (2006). *Science* **314**, 1280-1283 (DOI: 10.1126/science.1133599).