PHYSICAL CHARACTERIZATION OF THE LARGE, ACCESSIBLE NEA (190491) 2000 FJ10. . T. Kwiatkowski[1] and M. Butkiewicz[1] and A. A. Christou[2] and A. Gulbis[3], [1]Poznan Astronomical Observatory, A.Mickiewicz University (ul. Sloneczna 36, PL-60-286 Poznan, Poland, tkastr@vesta.astro.amu.edu.pl), [2]Armagh Observatory (College Hill, Armagh BT61 9DG, United Kingdom, aac@arm.ac.uk), [3]South African Astronomical Observatory (P.O. Box 9, Observatory, 7935 Cape Town, South Africa, amanda@saao.ac.za)

Introduction: Among the population of near-Earth asteroids (NEAs) there exists a small fraction of objects in low- inclination, low-eccentricity orbits similar to the Earth's. These NEAs are considered attractive targets for *in situ* investigation by robots or humans [1,2,3,4,5]. However, the attractiveness of individual objects as targets for either robotic or human missions is mired by the current poor knowledge of their orbits and physical properties. Many have been observed only for a single apparition resulting in large projected uncertainties in their future position. In addition, knowledge of properties that are important from an operational as well as a scientific standpoint - size, shape, surface roughness, rotational state and spectral type - ranges from poor to non-existent.

Observations: Here we report on observations of NEA (190491) 2000 FJ10 conducted during the second half of September 2011 with the SALT telescope and SALTICAM instrument from Sutherland, South Africa. 2000 FJ10 is a near-Earth asteroid (NEA) in a moderately eccentric orbit (e~0.2) with a perihelion distance of 1 AU. This NEA ranks 114th out of ~8500 objects in terms of Delta v required to rendezvous with it (see list by L. Benner ; http://echo.jpl.nasa.gov/ ~lance/delta_v/delta_v.rendezvous.html) and, at *H*=20.9, is the second largest among all objects that outrank it. Hence, it is an attractive target for robotic or human exploration.

The observations took place when the object was 0.16 AU from the Earth and at a phase angle of 35°.

Results: The colour of the asteroid, as measured by us in the sloan g', r' and i' bands, indicates that it most likely belongs to a class of geologically-evolved, higher albedo objects such as an X or S type. A primitive classification such as D cannot be excluded based on our observations alone.

Constraints on the asteroid's rotation period and size will also be reported during the conference.

References: [1] Hasegawa et al, 2008, Publ. Astron. Soc. Japan, 60, 399-405. [2] Abell et al, 2009, *Meteoritics Planet. Sci.*, 44, 1825-1836. [3] Michel et al, 2009, *Meteoritics Planet. Sci.* Abs., 5261. [4] Clark et al, 2010, Bull. Amer. Astron. Soc, 42, 1086. [5] Elvis et al, 2011, Planet. Space Sci., 59, 1408-1412.