THE SIZE, THERMAL INERTIA AND WATER PRODUCTION RATE OF COMET 8P/TUTTLE. O. Groussin[1], M. S. Kelley[2], Y. R. Fernández[2], L. Jorda[1], P. L. Lamy[1], I. Toth[3] and H. A. Weaver[4], [1]Laboratoire d'Astrophysique de Marseille, Traverse du Siphon - Les 3 Lucs, BP8-13376 Marseille Cedex 12, France, [2]University of Central Florida, Orlando, FL, USA, [3]Konkoly Observatory, Budapest, Hungary, [4]JHU Applied Physics Laboratory, Laurel, MD, USA.

Comet 8P/Tuttle is one of the largest nearly isotropic comet (NIC) [1], with an estimated radius of 7.8 km [2] based on visible photometry. We observed the comet with the Spitzer Space Telescope (SST) on 2 November 2007 when it was 2.02 AU from SST, 2.42 AU from the Sun, and nearly 3 months before perihelion on 27 January 2008 when its heliocentric distance was 1.03 AU. We used the IRS instrument in low resolution mode to obtain the spectral energy distribution (SED) from 5 to 35 microns. From the shape and intensity of the SED, we derived the size and thermal inertia of the nucleus of comet 8P/Tuttle. The (010-000) vibrational emission band of water at 6.3 microns was also detected, and we derived the water production rate and active surface fraction. We will present these results and compare them to those of other NICs.

References: [1] Levison, H. F. (1996) Completing the Inventory of the Solar System, p173-191. [2] Licandro, J., et al. (2000) Icarus 147, p161-179.