**ALBEDOS OF MAIN-BELT COMET NUCLEI AND KILOMETER-SCALE THEMIS ASTEROIDS.** H. H. Hsieh[1,2] D. Jewitt[2], and Y. R. Fernández[3], [1]Astrophysics Research Centre, Queen's University Belfast, Belfast BT7 1NN, United Kingdom. h.hsieh@qub.ac.uk, [2]Institute of Astronomy, University of Hawaii, 2680 Woodlawn Drive, Honolulu, HI 96822, United States. jewitt@ifa.hawaii.edu, [3]University of Central Florida, Department of Physics, 4000 Central Florida Blvd, Orlando, FL 32816, United States. yfernandez@physics.ucf.edu.

Identified in 2006, main-belt comets (MBCs) are a recently-discovered class of observationally cometary bodies that are dynamically indistinguishable from main-belt asteroids [1]. The activity of the MBCs is characterized by prolonged dust emission, which is inconsistent with impact generation and instead indicative of being driven by the sublimation of volatile ice, i.e. it is cometary in nature. The MBCs' stable orbits indicate, however, that they are most likely native to the main belt, implying that any currently sublimating ice must have been preserved in subsurface reservoirs and only recently exposed to solar heating, perhaps by impacts from other asteroids. We report on the results of a survey of the nuclei of the known MBCs and a sample of 31 dynamically similar and similarly-sized, but inactive background objects (drawn from the Themis asteroid family, with which two of the three MBCs are dynamically associated) to determine their albedos. This survey employs infrared data (24- and 70-micron photometry) from MIPS on the Spitzer Space Telescope in conjunction with optical photometry data from the Gemini, Subaru, and University of Hawaii 2.2-meter telescopes on Mauna Kea in Hawaii, and aims to determine how albedos of MBC nuclei compare with those of inactive background objects, as well as those of other cometary nuclei. We will discuss the implications of this survey for clarifying the nature and origin of the MBCs and the potential for using these results for identifying MBC nuclei in the absence of currently-detectable cometary activity.

[1] Hsieh, H. H. & Jewitt, D. (2006) *Science, 312*, 561–563.