The Space Infrared Interferometric Telescope (SPIRIT)

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The far-infrared astrophysics community is eager to follow up *Spitzer* and *Herschel* observations with sensitive, high-resolution imaging and spectroscopy, for such measurements are needed to understand merger-driven star formation and chemical enrichment in galaxies, star and planetary system formation, and the development and prevalence of water-bearing planets. The Space Infrared Interferometric Telescope (SPIRIT) is a wide field-of-view space-based spatio-spectral interferometer designed to operate in the 25 to 400 micron wavelength range. This talk will summarize the SPIRIT mission concept, with a focus on the science that motivates it and the technology that enables it. Without mentioning SPIRIT by name, the astrophysics community through the NASA Astrophysics Roadmap Committee recently recommended this mission as the first in a series of space-based interferometers. Data from a laboratory testbed interferometer will be used to illustrate how the spatio-spectral interferometry technique works.