

The need of high spatial resolution: what single dish telescopes in space cannot do

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The Herschel Space Observatory has been a hugely successful mission, revolutionising the field of sub-millimetre astronomy from the local Universe to cosmological distances. The future infrared mission, SPICA will effectively be a cold Herschel in space allowing astronomical observations of unprecedented sensitivity. Despite the ground breaking discoveries by Herschel and expected from SPICA, these missions remain single dish facilities and are therefore subject to strong limitations on the resolution that can be achieved by single 3.5m mirrors in space. This talk describes the strong limits of 3m class telescopes in the FIR and explores the advantages of a sub-arcsecond FIR Space Observatory such as FIRI.