



The Space Interferometer for Cosmic Evolution (SPICE)

The SPICE mission concept was studied as a possibility for the recent Probe competition.

It derives heritage from previous studies of FIR interferometers (SPIRIT and SPECS) conducted by GSFC.

The SPICE concept was priced at around \$1B

Mission Concept

- Wavelength range 25 – 400 μm
- Angular resolution 0.3 ($\lambda/100 \mu\text{m}$) arcsec
- Dense u - v plane coverage for high quality imaging
- Integral field spectroscopy over a 1 x 1 arcmin FoV
- Spectral resolution $\lambda/\Delta\lambda \geq 3000$ in each spatial resolution element
- Sensitivity (5σ , 24 hours): tens of μJy continuum; $\sim 10^{-19} \text{ W m}^{-2}$ spectral lines
- Single scientific instrument ("double Fourier" beam combiner)

<https://asd.gsfc.nasa.gov/spice>

