

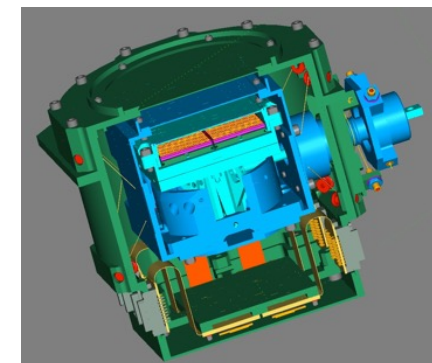
SALTUS / B-BOP Fact Sheet

Polarimetric camera

Simultaneous observations in 3 bands over the range 75-420 μm

Mapping instrument delivering I, Q and U Stokes parameters

FoV from 0.45'x0.45' to 0.67'x0.67'



	Band 1	Band 2	Band 3
Band center	100 μm	200 μm	350 μm
Band edges	75—125 μm	150—250 μm	280—420 μm
# of pixels	4 x 16 x 16	16 x 16	8 x 8
Pixel size	0.85" x 0.85"	1.7" x 1.7"	3" x 3"
Band centre FWHM	1.4"	2.8"	5"
Astrophysical background surface brightness	6.25 MJy/sr	2.71 MJy/sr	1.52 MJy/sr
Point Source sensitivity (unpolarised)	0.16 mJy	0.32 mJy	0.72mJy
Point Source sensitivity in Stokes (Q,U) at 5% polarization level	4.6 mJy	9.1 mJy	20.3 mJy
Surface brightness sensitivity (unpolarised)	3.2 MJy/sr	1.6 MJy/sr	1.2MJy/sr
Sensitivity to map Stokes (Q,U) at 5% polarization level	90 MJy/sr	45 MJy/sr	33MJy/sr

Assumptions:

Detector NEP: $2 \times 10^{-17} \text{ W}\cdot\text{Hz}^{-1/2}$

Telescope mirror temperature: 25 K

Mirror: $\varnothing 15 \text{ m}$, no obscuration

Background includes:

- Zodiacal light, ISM, CIB, CMB at location typical of **extragalactic** observations
- Telescope
- Instrument optics

All sensitivities are for 5σ , 10h mapping of a 1 square degree area

For polarization, 5σ refers to the polarization fraction p ($p/\sigma_p=5\%$)

Only internal observation overheads included

Confusion limit not included – should be minor issue

