

Galaxy Breakout

- Key Science
- Requirements
- Preparatory Work
- Recommendations

Priority Science

- BH Mass / Maggorian – $M-\sigma_*$
stellar orbits through astrometry (unlikely – faint!)
spectroscopy (Vr unlikely do dispersion σ_*)
- Structure of inner AGN
- CMD of diverse populations
- Geometric Distances – light echoes of GRB, SNe, AGN
Baader-Wesselink (sp?), M31 rotations

Additional Science

- Structure of nuclei – distribution of stars, core clusters, etc.
- Microlensing – what are MACHOs ?
- Surface Brightness Fluctuations
- Interferometric Deep Field ?

Requirements (most projects assume K band)

	Baseline	N dish	FoV*	Sens.	DynRange	Spec R	Time M
M σ^* +evol.	km	3-5	1 X	Check	No	2000	No
Structure of AGN	few km	5-10	1 X	Moderate K 10-12	Yes high?	150, 2000	Yes, daily
CMD	Knut	Many	1 X several pointings	High	No (?)	10	No
Geomet. Distance	10-40 km	5-10	1 X	M31 – K~15	No	10 500(AGN)	Yes, weekly?
Structure of Nuclei			1 X				No
uLensing		3-5 (?)	1 X				Yes
SBF		MANY					No
IDF			few arcmin				No

* Note: $X = \lambda/\text{baseline} \times \text{spectral resolution}$

Preparatory Work (incomplete)

Structure of nuclei -

$M \sigma_*$ - Theoretical work on brightness of cores.

Structure of inner AGN – Brightest / nearest with current facilities. More intense reverberation studies. Going to NIR.

CMD of diverse populations –

Microlensing –

Surface Brightness Fluctuations

Geometric Distances – Classical Novae. Studies of asymmetry in SNe and AGN (GRBs?)

Interferometric Deep Field -

Recommendations