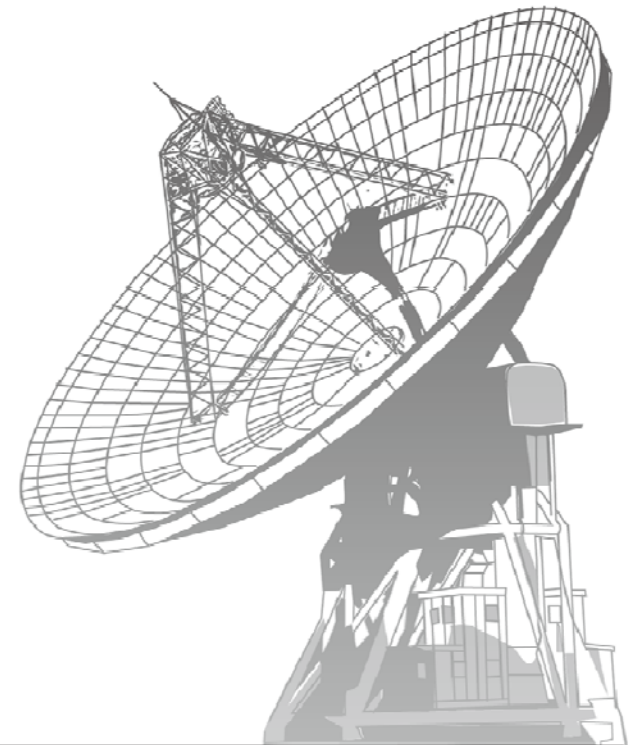


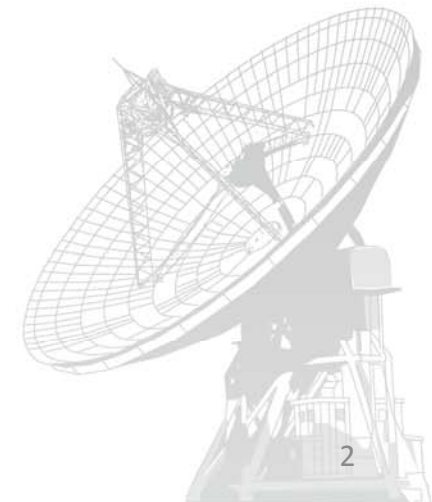
NROの現状・今後とVERA

Masao Saito(NRO)



Contents

- Tough Situation
- NRO Status
- NRO Future
- Nobeyama 45m for VERA



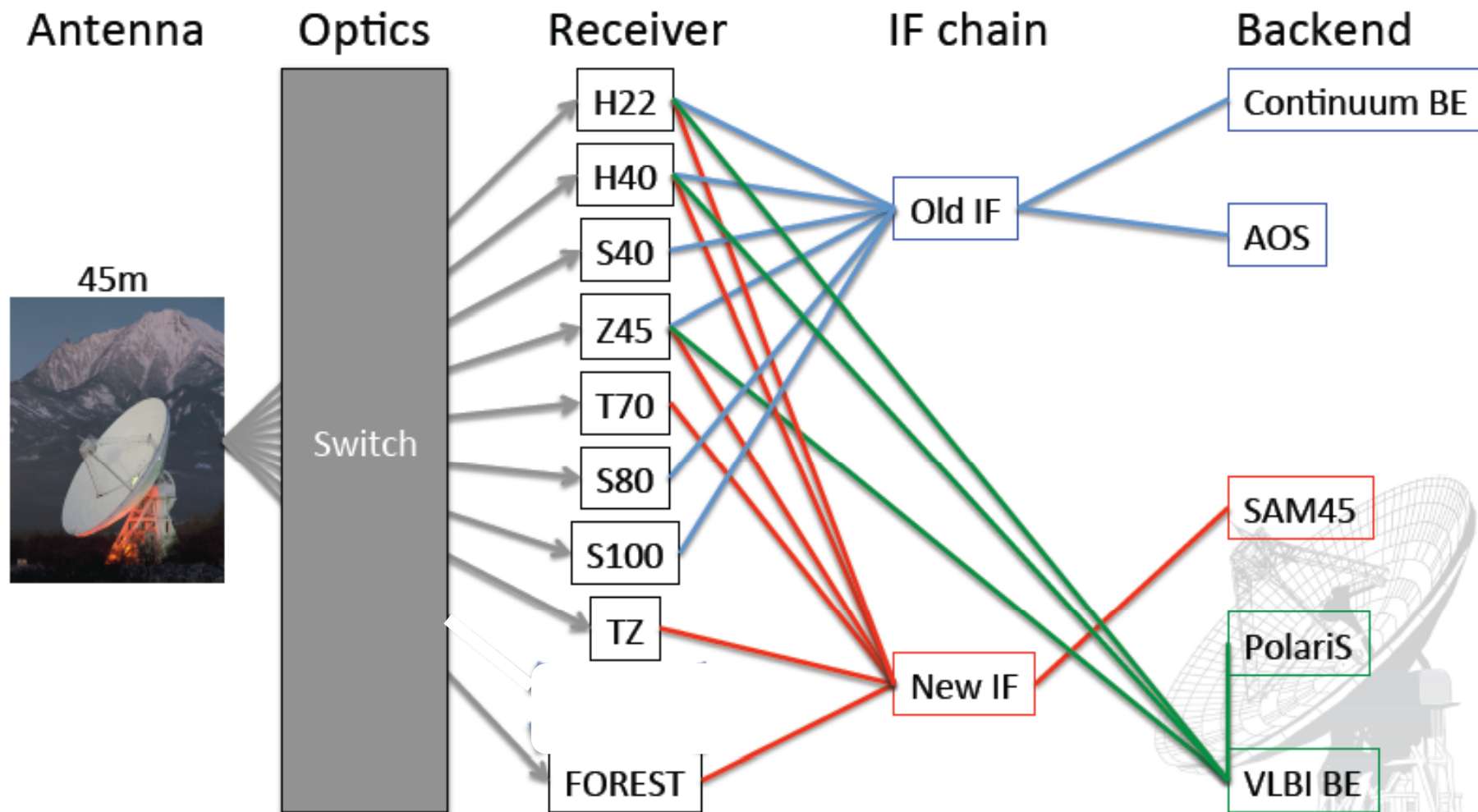
Facing Tough Situation

- Single Dish mm astronomy is very competitive

	NRO 45	IRAM30	GBT	Mopra
Diameter	45 m	30 m	100 m	22 m
T _{sys} η_{MB} 7 mm	1B/200 K 0.75	NA	2B/70 K 0.7	1B/80K 0.6
T _{sys} η_{MB} 3.3 mm	150 K 0.35	100 K 0.7	150 K 0.4	200K 0.5
Note/ Future Inst.	4 pix at 115 GHz	9 pix at 230 GHz	16 pix at 100 GHz	

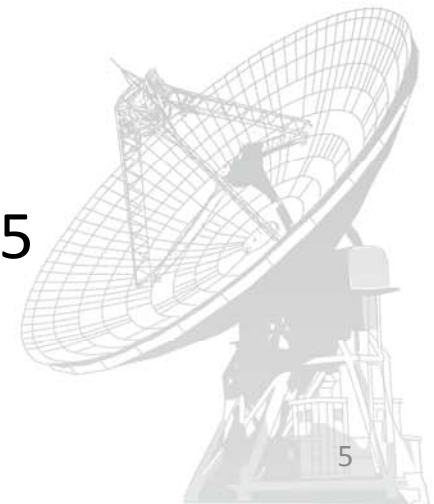


NRO Status



On-going Efforts

- Antenna Master Plan
 - Az Rail System on-going, Subreflector Drive System on-going, Optics, Radio Holography
- Rx/IF
 - Priority goes to FOREST/SAM45
 - Panda -> Octad-a
- Analysis Software
 - Newstar/Nostar -> CASA
- Open Use
 - Similar look/feel between ASTE and NRO45



NRO Future

- Simplify overall science operation
 - Stay competitive
 - Maintain open use quality
 - Make room for new development or science
- Toward Simple Operation
 - Decommissioning (duplicated) instrument
 - Common open use procedure with ASTE
 - Software Development with Chile Observatory
 - CASA/Archive/Proposal submission
 - Rx development with ATC



Nobeyama 45-m antenna for VERMINS

- Maximize Science (up to 100 hrs/yr for VERA)
 - Enhance sensitivity \leq please fully justify for use of the 45-m antenna
- Hard to maintain VLBI capabilities on Nobeyama side (maintenance and commissioning).
- Nobeyama 45-m antenna is really needed for your science?



Nobeyama 45-m for VERA

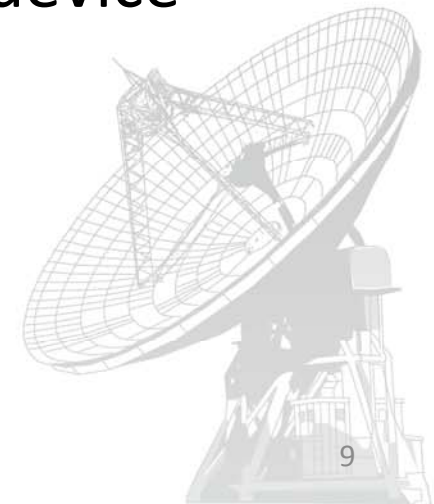
- Instrument for VERA
 - H22
 - H40
 - (Z45)
 - H maser
 - VLBI backend

Name (Status)	H22 Open use	H40 Open use
Rx. type	HEMT	HEMT
RF (GHz)	20 - 25	42 - 44
IF B.W.	2 GHz	2 GHz
Tsys	100 K	200 K



Nobeyama 45-m for VERA

- Science Collaboration
 - On-going efforts, e.g. Galactic Plane Survey
- Simple Operation
 - Make every-year commissioning routine
 - Share commissioning procedures
 - Share/exchange expertise in Common device
- Common operation
 - Call for proposal?
 - Data Archive?



Questions?
Constructive Comments/Criticism?

