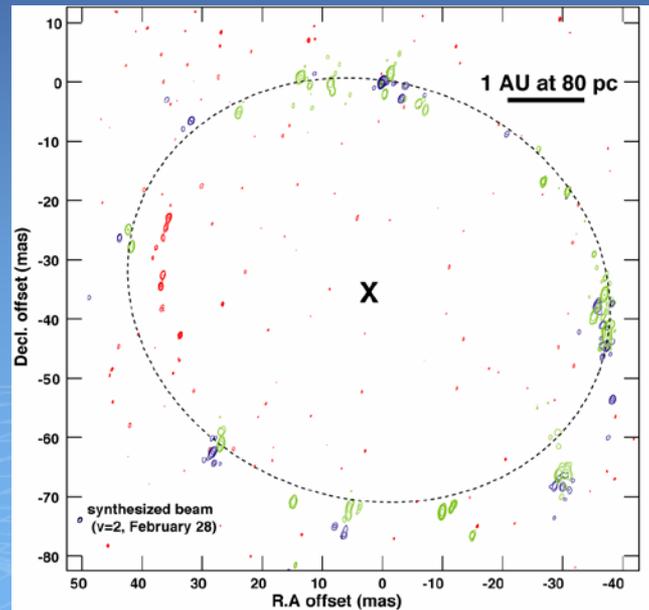
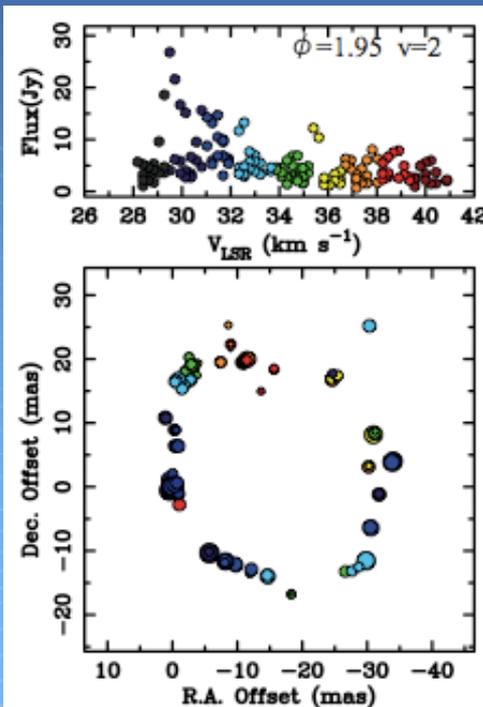




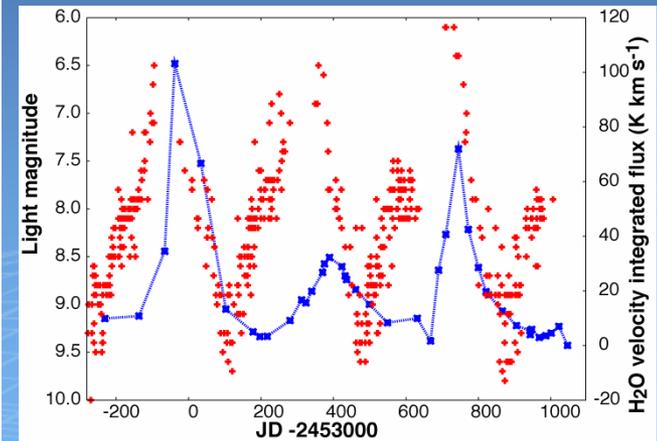
Report on the Evolved Stars sub-WG for KVN+VERA

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SiO v=1, J=1-0 (February 27) 0.43, 1.30, 3.91, 11.72, 35.15, 52.73 Jy beam⁻¹ km s⁻¹
SiO v=2, J=1-0 (February 28) 0.44, 1.31, 3.94, 11.83, 35.47, 53.21 Jy beam⁻¹ km s⁻¹
SiO v=3, J=1-0 (February 28) 0.02, 0.04, 0.08, 0.16 Jy beam⁻¹ km s⁻¹





Mission of Evolved Stars sub-WG

- Define the observation plans that can be defined as “KVN+VERA Key Science Projects”.

Specific to “evolved stars”

- Drafting the project plans/proposals. **Final goals**
- Define the action items for project planning
- Collecting man powers for individual action items.
- Synergy with other sub-WGs. Now in progress



Sub-working group wiki



<http://milkyway.sci.kagoshima-u.ac.jp/groups/subwgagbforkvnvera/>

- Readable/writable to only the registered members
 - Please contact to H.I if interested.
- Any records of sub-WG activity
 - Meeting agenda and minutes
 - Any information on project planning, including web links
 - Presentations related to this sub-WG
 - Final proposal to the whole community (now unavailable)
- Input from the registered members are always welcome.
 - Any simulation, proposals, results of previous and test observations.
 - “To-do” list for test observations and project planning.



What are we interested in?

see presentations on 2011 June 13-14

What do we want see?

- Pulsation of AGB stars (Miras, semi-regulars) flow acceleration, shock waves
- Inhomogeneity of stellar mass loss bipolar flow, “water fountains”
- Astrometry for nearby maser sources (<300 pc) Mira’s *P-L* relationship
- Astrometry for far maser sources Galactic center, bulge, etc,

What do we want to do?

- Biweekly monitoring observations maser sources
- Statistical study of stellar maser sources
- Relative distributions of H₂O and SiO masers (c.f. HCN masers in C-rich stars)
- Maser source imaging/astrometry for extended maser sources



What can we do/see **uniquely** with KVN+VERA?

Defining action items in test observations and project planning

- How effective to detecting extended maser emission?
Distribution of maser spot sizes in a histogram
- How important to detect the extended maser emission?
Image quality of KVN+VERA operation and its impact on maser astrophysics
- What is the best set of observation parameters?
Velocity resolution and coverage, band selection, calibrators, field of view
- How efficiently can we do maser astrometry and maser movie creation?
Image quality of KVN+VERA snapshot operation
Special operation with VERA for frequency switching
- How many hours/ how many projects can we proposed?
FTE (full time equivalence), processing time for data analysis and paper drafting