Double Maser Super Burst telecom, No. 3
Minutes

Minutes taken by: Ross Burns

14th May 2018

1 Recent maser activity

Reporting on any flare, or otherwise interesting behavior of maser sources seen in monitoring observations (M2O single dish)

Introduction from Artis Aberfelds. Their group in Irbene, Latvia, monitors methanol masers of about 40 sources - observed every 3 or 4 days, some interesting sources observed daily.

M2O - Fanny (Gordon's postdoc) is taking over operations. James will meet fanny soon to discuss the future of M2O organisation and webpage. Currently, M2O observatories operate on their own schedules - there is only collaboration following reports of a potential burst event. We request that M2O observatories share their source lists with other M2O members - to be held on the M2O website. This would be a great start for the progress of M2O and M2O-VLBI.

Japanese monitoring programs already have an alert system for periodic or burst behaviors. The system is coordinated mainly by students.

No flare activity seen since the previous meeting.

2 Progress reports

Reporting on data reduction and results of data obtained in relation to the M2O-VLBI project.

Compact array
VLA // SMA? // Other?

Members from ASC, Russia, report on the VLA rsults of G25.65+1.05 at 6.7, 22 and 44 GHz (cII meth, water, cI meth). See the report on the wiki page titled:
"Progress report on analysis of VLA data for G25 at 6.7, 22 and 44 GHz - Part II".

VLBI
EVN // KaVA // VLBA // VERA // QUASAR // RadioAstron // Other?

VERA observed the October 22 GHz water maser burst in W49N, however it is not clearly part of the M2O-VLBI project

3 Proposals

Next VLBI deadline is 1st June 2018 - for VERA/KaVA/EAVN and EVN.

- Baseline observations of maser burst candidates.

  Ross: high sensitivity is priority. B-fields also highly desired. Propose for new baseline observations for sources that do not already have 4 Stokes archival data

- Bursting targets.

  Ross: we should submit a triggerable VLBA proposal for bursting masers at 6.7 GHz (G25 and W49N), we also want a triggerable proposal for 22 GHz W49N since the ToO EVN and KaVA data missed the original burst.

  The 'burst' criteria should be defined. This will be required for a triggerable proposal

- Parallax measurements.

  VERA data for G25 exists, requires careful re-reduction but currently no success

  Hirota: will lead efforts to measure parallaxes of maser bursts using VERA in wide-band more, including G25

  Ross: We can perform a quick EVN survey of potential calibrators near G25 to identify a suitable reference source for VERA

  Gabor: Can also make such requests to VLBA

  Hirota: High sensitivity, wide-band VERA is also conducting a calibrator search

4 Other

Gabor: We should stop using Skype and move to Zoom

We all miss Gordon, the M2O needs a new Gordon

Reitterating: the goals of this project is to try to understand the maser burst mechanism - for the study of the maser process, and also to study the formation of massive stars using, for example, the enhancement in flux and B-field, to investigate scenarios of accretion bursts and shock compression, respectively.
Distance measurements are supplementary but are not a main part of the science goals.

Hirota and Sugiyama, EAVN will be available for single-pol, high sensitivity imaging. Each proposal may have up to 24 hrs. Suitable for proper motions.

We have not considered proper motions as part of this project, should we?