

Agenda: M2O telecom, No. 10

The main goals of this telecom are:

- 1 Decision whether or not / how to propose a chapter in PPVII [link here](#)
- 2 Reporting on latest activity. [Latest updates are highlighted in Blue](#)

1 Activity since the previous Telecom

- **SamePage:**

+0, total 62 members
 SamePage Restructured
 Purchased a Zoom account
 MaserMonitoring.org domain ownership extended by G. Orosz

- **Papers accepted:** +2. Total: 13

Chen+, G358, VLA, Isotopic $^{13}\text{CH}_3\text{OH}$ masers
 Volvach+, G358, SD monitoring of 19.9 and 20.9 GHz methanol, MNRAS

- **Papers under review:** 0

- **News on papers in prep:**

Stecklum+, G358, SOFIA, Continuum enhancement, [Circulation: ~March 2020](#)

- **New maser bursts:**

Name	Maser [GHz]	Pre-burst Flux [Jy]	Max Flux [Jy]	Current Flux [Jy]	Reported by	Reobserved by
Orion S6	6.7	3.1	6.6	6.6	Yonekura	Ib, Tr, Sz
G85.411+0.002	6.7	12	44	44	Yonekura	Ib, Ef, Sz, Tr, Yonsei
G33.641-0.228	6.7	-	-	-	-	-

- **Ongoing maser bursts:**

Name	Maser [GHz]	Pre-burst Flux [Jy]	Max Flux [Jy]	Current Flux [Jy]	Reported by	Reobserved by
NGC2071	22	1k	7k	?	Sunada, Hh	Vr, Hh, Sz
IRAS 16293-2422	22	-	30k	?	Sunada, Mc	Vr, Mc, Hh, Sz
MSX6C G053.2176-00.0808	22	few	800	?	Sunada	Vr, Hh

- **Past bursts:**

G358 (Monitored: Tr,Hh,Mc). Post-burst. Flux stable at 45-50 Jy (pre-burst: 10-15 Jy)
 G24.33 (Monitored: Tr,Hh,Mc,Ventspils)

- **Follow-up observations conducted (see Record Keeping for details):**

[Orion-S6](#) and [NGC2071](#), KaVA, K/Q/W/D, 13 March 2020

- **New observing proposals:**

VLBA triggerable ToO (RB) submitted
 VLA triggerable ToO (OB), submitted.
 EVN revised triggerable ToO (RB), in prep.
 SMA triggerable ToO (T.Hunter), submitted
 SUBARU triggerable ToO (M.Uchiyama), submitted
 JWST triggerable ToO (A.C.o.G), in prep.
 VLBA DDT G85 (RB), submitted, accepted, currently being scheduled

- **Active trigger proposals:**

KaVA (EAVN20A-160) at grade 7.3 / 10.0 (where 10 is high)
 EVN (RB007) at grade 1.3 / 5.0 (where 5 is low)
 LBA (V581) at grade 4.0 / 5.0 (where 5 is high)

2 Reports

Short reports on specific activities, please send me an email (ross.burns@nao.ac.jp) in advance if you have something to report in an upcoming telecom.

Ross: Protostars & Planets VII chapter authoring

The Protostars & Planets series has served the community for more than three decades with state-of-the-art compilations of the current knowledge in the fields of star and planet formation. The previous volume PPVI was published in 2014. Since then, the field of Protostars & Planets has advanced significantly. The next Protostars & Planets conference will take place in Kyoto, Japan, April 1-7, 2021. For more details about the schedule and location, please visit the conference website: ([link here](#))

We encourage different groups to collaborate and present comprehensive reviews where the competing schools of thoughts are discussed in context and where common ground as well as controversies are explored in an unbiased and objective way.

A primary outcome of the conference will be a book of review articles as Protostars and Planets VII. This announcement is a call for proposals for review chapters in the book and associated talks. Since the organizers would like to have sufficient time to evaluate the proposals, we ask you to submit proposals by **April May 1, 2020**.

The respective deadlines and dates are the following:

Dec. 13, 2019 (this announcement): Call for review chapters and talk proposals
Apr. 1, 2020 (15:00JST): Deadline for the submission of proposals
May. 1, 2020 (15:00JST): New Deadline for the submission of proposals
Oct. 1, 2020: Decision on review chapters and talks
Oct. 1, 2020: Start of registration
Dec. 1, 2020: End of early registration
Feb. 1, 2021: Submission of extended skeleton papers
Mar. 1, 2021: Submission of the final review article
Apr. 1, 2021: Start of PP7 meeting

Submissions should include:

the short summary of proposal
the list of authors
list of sections
description of the subjects

Additional rules and guidelines

- The proposal length should be no more than 4 pages including figures and tables but excluding references. All the files should be in a single pdf format and should not exceed 5MB in size.
- Any author cannot be in multiple proposals.
- Proposals with 3-6 authors that provide a broad perspective are encouraged. In this way, we hope a small number of authors are responsible for their own single review proposal.
- Each review chapter will be represented by a talk during the conference.
- It is encouraged (but not forced) that the speaker/lead author are different people.

Conferences:

- **6-9 April**; [The Variable Multi-Messenger Sky](#); Krakow, Poland
 URL: <https://www.we-heraeus-stiftung.de/veranstaltungen/seminare/2020/the-variable-multi-messenger-sky>
Abstract deadline: 16 Dec
 Attending: Busaba Kramer and Torun members
- **Mar 30-1 Apr**; [Multi-line Diagnostics of the Interstellar Medium](#); Nice, France
 URL: <https://iram2020nice.sciencesconf.org/index/index>
Abstract deadline: 2 December 2019
Attending: Andrej Sobolev
Maybe:
- **18-22 May**; [Massive stars near and far](#); Ireland
 URL: <https://www.massivestars2020.ie>
Abstract deadline: 15 Dec
 Attending: ?
- **25-28 May**; [Canadian Astronomical Society Annual meeting](#); Ontario, Canada
 URL: <http://casca2020.yorku.ca>
Abstract deadline: Apr 10, 2020
Attending: Gordon MacLeod
Maybe:
- **8-12 June**; [The predictive power of computational astrophysics as a discovery tool](#); Chamonix, France
 URL: <http://iaus362.astro.unistra.fr/IAUS362.html>
Abstract deadline: 15 April
 Attending: Andrey?
- **29 June - 3 July**; [The physics of star formation](#); Lyon, France
 URL: <http://staratlyon.univ-lyon1.fr/en>
Abstract deadline: 1 March
 Attending: Bringfried?
- **Jun 29-3 Jul**; [European Astronomical Society Annual Meeting](#); Leiden, Netherlands
 URL: <https://eas.unige.ch/EAS2020/index.jsp>
Abstract deadline: 2 Mar, 2020
Attending: Olga Bayandina
Maybe:
- **6-10 July**; [EVN symposium](#); Cork, Ireland
 URL: <https://www.ucc.ie/en/evn2020/>
Abstract deadline: 15 Apr, 2020
 Attending: Ross
- **6-10 July**; [APRIM \(Asia Pacific IAU Regional Meeting\)](#); Perth, Australia
 URL: <https://aprim2020.org/>
Abstract deadline: 15 Mar
 Attending: Busaba,
- **12-17 July**; [EPOS2020 \(Early Phases of Star Formation\)](#); Schloss Ringberg, Germany
 URL: <http://www.mpia.de/homes/stein/EPoS/2020/2020.php>
Abstract deadline: 15 Jan
 Attending: Hendrik
- **19-24 July**; [Hot Stars - Life with Circumstellar Matter](#); Almaty, Kazakhstan
 URL: <https://sites.google.com/view/almaty-stars-2020/>
Abstract deadline: 15 June
 Attending: Bringfried
- **17-21 Aug**; [From Clouds to DISC conference in honor of Lee Hartmann's career](#); Dublin
 URL: <https://www.dias.ie/cloudstodiscs/participants.html>
Abstract deadline: 23 March
 Attending: Alessio
- **Aug 29-5 Sep**; [XXXIII General Assembly and Scientific Symposium \(GASS\) of the International Union of Radio Science](#); Rome, Italy
 URL: <https://www.ursi2020.org/program/>
Abstract deadline: Feb 10, 2020
Attending: ?
Maybe:

Record keeping

3 M2O Publications

No.	Target	Facility	Author	Frequency (GHz)	Status	Ref	Journal
1	W49N	Simeiz, Torun	Volvach+	22.2	Published	(1)	MNRAS_L
2	W49N	Sm, Tr, Mc, Ef	Volvach+	22.2	Published	(2)	A&A
3	W49N	Sm, Tr, Mc, Ef, Kvazar VLBI	Volvach+	22.2	Published	(3)	Ast.Rep.
4	G25	VLA	Bayandina+	6.7, 12.2, 22	Published	(4)	ApJ
5	G25	Sim/Hh/Tr	Volvach+	22	Published	(5)	MNRAS_L
6	G25	KVASAR	Volvach+	22	Published	(6)	Ast.Rep.
7	G25	EVN	Burns+	22	Published	(7)	MNRAS
8	G25		Aberfelds+	22	in prep	-	-
9	G25		Bayandina+	12.2, 23.1	in prep	-	-
10	G25		MacCleod+	6.7, 22	in prep	-	-
11	G358	ATCA	Breen+	mm	Published	(8)	ApJ
12	G358	ALMA-SMA	Brogan+	mm	Published	(9)	ApJL
13	G358	HartRAO	MacCleod+	Very many lines	Published	(10)	MNRAS
14	G358	LBA	Burns+	6.7	Published	(11)	Nat.Ast.
15	G358	VLA	Chen+	many	Published	(12)	ApJL
16	G358		MacCleod+	6.7 GHz monitoring	in prep	-	-
17	G358		MacCleod+	6.2, 12.2, 20.3, 20.9	in prep	-	-
18	G358	VLA	Bayandina+	6.7, 12.2, 22.2	in prep	-	-
19	G358	SOFIA	Stecklum+	FIR	in prep	-	A&A_L
20	G358	Simeiz and HartRAO	Volvach+	19.9, 20.9	Published	(13)	MNRASL
21	G358	ATCA	Breen+	Rare transitions	in prep	-	-
22	G24.33	EVN, VLBA	Olech+	6.7, 12.2, 22.2	in prep	-	-
23	G24.33	Torun	Olech+	OH, Meth	in prep	-	-

References

- [1] Volvach, L. N., Volvach, A. E., Larionov, M. G., MacLeod, G. C. & Wolak, P. Unusual flare activity in the extreme-velocity 81 kms⁻¹ water-maser feature in W49N. *Monthly Notices of the Royal Astronomical Society: Letters* **487**, L77–L80 (2019). URL <https://doi.org/10.1093/mnrasl/slz088>. <http://oup.prod.sis.lan/mnrasl/article-pdf/487/1/L77/28864243/slz088.pdf>.
- [2] Volvach, L. N. *et al.* Flaring water masers associated with W49N. *A&A* **628**, A89 (2019).
- [3] Volvach, L. N. *et al.* An unusually powerful water-maser flare in the galactic source w49n. *Astronomy Reports* **63**, 652–665 (2019). URL <https://doi.org/10.1134/S1063772919080067>.
- [4] Bayandina, O. S., Burns, R. A., Kurtz, S. E., Shakhvorostova, N. N. & Val'tts, I. E. JVLA overview of the bursting H₂O maser source G25.65+1.05. *arXiv e-prints* arXiv:1812.11353 (2018). [1812.11353](https://arxiv.org/abs/1812.11353).
- [5] Volvach, L. N. *et al.* Powerful bursts of water masers towards G25.65+1.05. *MNRAS* **482**, L90–L92 (2019).
- [6] Volvach, L. N. *et al.* A Giant Water Maser Flare in the Galactic Source IRAS 18316-0602. *Astronomy Reports* **63**, 49–65 (2019).
- [7] Burns, R. A. *et al.* VLBI observations of the G25.65+1.05 water maser superburst. *MNRAS* **491**, 4069–4075 (2020). [1911.12634](https://arxiv.org/abs/1911.12634).
- [8] Breen, S. L. *et al.* Discovery of Six New Class II Methanol Maser Transitions, Including the Unambiguous Detection of Three Torsionally Excited Lines toward G 358.9310.030. *ApJ* **876**, L25 (2019). [1904.06853](https://arxiv.org/abs/1904.06853).
- [9] Brogan, C. L. *et al.* Sub-arcsecond (Sub)millimeter Imaging of the Massive Protocluster G358.93–0.03: Discovery of 14 New Methanol Maser Lines Associated with a Hot Core. *ApJL* **881**, L39 (2019). [1907.02470](https://arxiv.org/abs/1907.02470).
- [10] MacLeod, G. C. *et al.* Detection of new methanol maser transitions associated with G358.93-0.03. *MNRAS* **489**, 3981–3989 (2019). [1910.00685](https://arxiv.org/abs/1910.00685).
- [11] Burns, R. A. *et al.* A heatwave of accretion energy traced by masers in the G358-MM1 high-mass protostar. *Nature Astronomy* **10** (2020).
- [12] Chen, X. *et al.* ¹³CH₃OH Masers Associated With a Transient Phenomenon in a High-mass Young Stellar Object. *ApJL* **890**, L22 (2020).
- [13] Volvach, A. E. *et al.* Monitoring a methanol maser flare associated with the massive star-forming region G358.93-0.03. *MNRAS* (2020).

M2O follow-up data

No.	Target	Facility	Date	Frequency (GHz)	Code	PI/comment
1	G25	VLA	Oct 2017	6.7, 12.2, 22	17B-408	OB / Reduced
2	G25+W49N	EVN	Oct 2017	22	RB004	RB / Reduced
3	G25+W49N	KaVA	Oct 2017	22	K17RB01A	RB / Reduced
4	G25+W49N	VLBA	Oct 2017	22	BO058	GO / Reduced
5	G25	VERA	2007-2013	22, 16 x epochs	[archival]	Motogi / mostly Reduced
6	G358	VERA	31 Jan 2019	6.7	-	SY / Reduced
7	G358	VERA	3 Mar 2019	6.7	-	SY / Reduced
8	G358	VERA	1 Apr 2019	6.7	-	SY / Reduced
9	G358	VERA	3 May 2019	6.7	-	SY / Reduced
10	G358	LBA	2 Feb 2019	6.7	vc026a	RB / Reduced
11	G358	LBA	3 Feb 2019	23.1	vc026b	GO / QuickLook
12	G358	LBA	28 Feb 2019	6.7	vc026c	RB / Reduced
13	G358	EVN	13 Mar 2019	6.7, 6.18	RB005	RB / QuickLook
14	G358	KVN	25 Mar 2019	22, 44, 95, 120	n19rb01a	RB / QuickLook
15	G358	VLBA	19 May 2019	6.7, 12.2, 23.1	BB414	RB / QuickLook
16	G358	VLBA	7 Jun 2019	6.7, 12.2, 20.7	BB412	RB / Correlated
17	G358	LBA+E.Asia	17 May 2019	7.6, 7.8	vx028a	GO,SE / QuickLook
18	G358	SOFIA	30 April 2019	50...120 μ m		BS,JE
19	G358	GROND	8 Feb 2019	NIR		HL,BS,AC
20	G358	SMA	several 2019	mm		THunter,CB
21	G358	ALMA	several 2019	Bands 5,6,7		CB
22	G358	VLA	2019	GHz	code	OB
23	G358	VLA	2019	GHz	code	OB
24	G358	VLA	2019	HNCO	code	XC,AS
25	G24	LBA	8 Sep 2019	6.7	vx026d	RB,MO / not correlated
26	G24	LBA	13 Sep 2019	6.7	s002a	RB,MO / not correlated
27	G24	LBA	28 Sep 2019	6.7	v581a	RB,MO / not correlated
28	G24	EVN	22 Sep 2019	22	RB006A	RB,MO / QuickLook
29	G24	EVN+Merlin	7 Oct 2019	6.7	RB006B	RB,MO / QuickLook
30	G24	EVN+Merlin	17 Nov 2019	1.667	RB007	RB,MO / correlated
31	G24	VLBA	27 Sep 2019	6.7, 12.2, 22	BB416A	RB,MO / QuickLook 1,0,1
32	G24	VLBA	27 Oct 2019	6.7, 12.2, 22	BB416B	RB,MO / correlated
33	G24	VLBA	02 Dec 2019	6.7, 12.2, 22	BB416C	RB,MO / correlated
34	G24	ALMA	26 Sep 2019	Band6	-	THirota / QuickLook
35	G24	SOFIA	25 Oct 2019	FIR		BS,JE
36	G24	ATCA	26 Nov 2019	K-band	C3321	GO,SB
37	G24	ATCA	27 Nov 2019	C-band	C3321	GO,SB
38	Orion-S6	KaVA	13 Mar 2020	22/44/95/130	a20d3a	RB / not correlated
39	NGC2071	KaVA	13 Mar 2020	22/44/95/130	a20d3a	RB / not correlated

Reminder:

All **G358** papers should include a member from the [Ibaraki](#) team in the author list and an acknowledgement of their funding.

All **G24.33** papers should include a member from the [Torun](#) team in the author list and an acknowledgement of their funding.

All **Orion-S6** papers should include a member from the [Ibaraki](#) team in the author list and an acknowledgement of their funding.

All **NGC2071** papers should include a member from the [VERA / Sunada](#) team in the author list and an acknowledgement of their funding.

All **G85** papers should include a member from the [Ibaraki](#) team in the author list and an acknowledgement of their funding.

Data:

If you are interested in any of the data listed above do not hesitate to contact the PI.

Next telecom: 30th April 2020, 18:00 JST