



## UvA-DARE (Digital Academic Repository)

### Burst detection from FRB 20201124A using the Westerbork-RT1 25-m telescope

Ould-Boukattine, O.S.; Kirsten, F.; Nimmo, K.; Snelders, M.P.; Hessels, J.W.T.; Blaauw, R.; Gawronski, M.; Sluman, J.J.

**Publication date**

2022

**Document Version**

Final published version

**Published in**

The astronomer's telegram

**License**

Unspecified

[Link to publication](#)

**Citation for published version (APA):**

Ould-Boukattine, O. S., Kirsten, F., Nimmo, K., Snelders, M. P., Hessels, J. W. T., Blaauw, R., Gawronski, M., & Sluman, J. J. (2022). Burst detection from FRB 20201124A using the Westerbork-RT1 25-m telescope. *The astronomer's telegram*, 15190. <https://www.astronomerstelegram.org/?read=15190>

**General rights**

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

**Disclaimer/Complaints regulations**

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

*UvA-DARE is a service provided by the library of the University of Amsterdam (<https://dare.uva.nl>)*

Outside

GCN  
IAUCs  
ATel on Twitter

Patreon

# The Astronomer's Telegram

Post | Search | Policies  
Credential | Feeds | Email

4 Aug 2022; 11:41 UT

This space for free for your conference.

MIAPP workshop on  
Interacting Supernovae  
6 February - 3 March 2023  
Garching, GermanyNe/O Si  
→

**Thanks to Patrons, The Astronomer's Telegram is free to read, free to publish and always will be. Thank you.**

[ [Previous](#) | [Next](#) | [ADS](#) ]

## Burst detection from FRB 20201124A using the Westerbork-RT1 25-m telescope

ATel #15190; *O. S. Ould-Boukattine (UvA), F. Kirsten (ASTRON, Chalmers), K. Nimmo (ASTRON, UvA), M. P. Snelders (UvA), J. W.T. Hessels (ASTRON, UvA), R. Blaauw (ASTRON), M. Gawronski (NCU, Torun), J. J. Sluman (ASTRON)*

on 28 Jan 2022; 21:39 UT

Distributed as an Instant Email Notice Transients

Credential Certification: Jason W.T. Hessels ([j.w.t.hessels@uva.nl](mailto:j.w.t.hessels@uva.nl))

Subjects: Radio, Fast Radio Burst

Referred to by ATel #: [15192](#), [15285](#)

[Tweet](#)

We report the detection of a fast radio burst from FRB 20201124A using the Westerbork-RT1 25-m telescope. Observations were done at a central frequency of 1323.49 MHz using a bandwidth of 128 MHz. We use a DM of 410.775 pc cm<sup>-3</sup>, as determined in our analysis of bursts discovered using the Onsala telescope (ATel #[14605](#), Kirsten et al., in prep.).

Fluence: 32 +/- 3 Jy ms

Arrival Time (MJD): 59602.992809162 at infinite frequency at the solar system barycentre (in TDB) using a DM of 410.775 pc cm<sup>-3</sup> and DM constant 4.14880568679703 GHz<sup>2</sup> cm<sup>3</sup> pc<sup>-1</sup> ms.

FRB 20201124A has been described as one of the most active FRB sources to date, having burst rates as high as ~45 bursts/hour (Lee et al. 2021). The source entered a period of high activity in February-April 2021 (Lanman et al. 2021), and multiple studies have already been published, including a host galaxy association (Fong et al. 2021; Ravi et al. 2021), millisecond localization (Nimmo et al. 2021, arXiv:2111.01600) and studies of polarization in the bursts (Hilmarsson et al. 2021; Kumar et al. 2021). Later in September 2021, multiple bursts were reported by CHIME/FRB and Effelsberg, possibly indicating the start of a new activity phase (ATel #[14933](#)).

The detection of a new burst from FRB 20201124A with Westerbork-RT1 at 1323.49 MHz could indicate that the source is again starting a new activity cycle. We therefore

### Related

- [15285](#) A bright burst detected at 2 GHz from the repeating FRB 20201124A
- [15197](#) Detection of two bright bursts from FRB20201124A with Apertif at the Westerbork Synthesis Radio Telescope.
- [15192](#) Subsequent detection of three more bursts from FRB 20201124A using the Westerbork-RT1 25-m telescope
- [15190](#) Burst detection from FRB 20201124A using the Westerbork-RT1 25-m telescope
- [14933](#) Detection of 9 new bursts from FRB20201124A with the 100 m Effelsberg Telescope
- [14836](#) Further monitoring of FRB 20201124A with Swift
- [14605](#) Two bright bursts from FRB 20201124A with the Onsala 25-m telescope at 1.4 GHz, with no simultaneous emission detected at 330 MHz with Westerbork 25-m
- [14603](#) VLBI localization of FRB 20201124A and absence of persistent emission on millisecond scales
- [14592](#) ASKAP low-band interferometric localisation of the FRB 20201124A source
- [14556](#) Extremely bright pulse from FRB20201124A observed with the 25-m Stockert Radio Telescope
- [14549](#) Detection of a persistent radio source at the location of FRB20201124A with VLA
- [14538](#) uGMRT localization of FRB20201124A
- [14537](#) Radio observations of FRB20201124a at 4-8 GHz with the 100-m Effelsberg Radio Telescope
- [14532](#) MASTER follow-up optical observation of FRB201124A
- [14529](#) uGMRT detection of a persistent radio source coincident with FRB20201124A
- [14526](#) VLA/realfast localization and deep imaging of FRB 20201124A
- [14525](#) Observations of FRB 20201124A with Swift/XRT and UVOT
- [14523](#) Swift observations of FRB20201124A
- [14519](#) High Frequency Radio Observations of FRB 20201124A at 2.26 GHz using the Deep Space Network
- [14518](#) FAST detection and

encourage follow-up observations at all wavelengths.

The observation reported here is part of a high-cadence multi-wavelength observation campaign of FRB 20201124A using multiple, 25-30-m dishes that are also part of the European VLBI Network (EVN). Our observing strategy has been described earlier in ATel #14605 and further details about our burst search pipeline can be found in Kirsten et al. (2021, DOI: 10.1038/s41550-020-01246-3). A detailed analysis of this burst and others detected in this campaign (ATel #14605) will be presented in a forthcoming paper (Kirsten et al., in prep.).

*Dedispersed plot of the burst*

localization of  
FRB20201124A

- 14516 A redshift for the putative host galaxy of FRB20201124A
- 14515 ASKAP localisation of the FRB 20201124A source
- 14509 Correction to ATel #14508
- 14508 A second fast radio burst from the source of FRB 201124A detected by ASKAP
- 14502 ASKAP detection of a repeat burst from the FRB 20201124A source
- 14497 Recent high activity from a repeating Fast Radio Burst discovered by CHIME/FRB

---



---

[ [Telegram Index](#) ]

R. E. Rutledge, Editor-in-Chief

[rrutledge@astronomerstelegam.org](mailto:rrutledge@astronomerstelegam.org)

Derek Fox, Editor

[dfox@astronomerstelegam.org](mailto:dfox@astronomerstelegam.org)