Subsequent detection of three more bursts from FRB 20201124A using the Westerbork-RT1 25-m telescope

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*on **29 Jan 2022; 13:22 UT***
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Subjects: Radio, Fast Radio Burst

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Following ATel #15190, we report the subsequent detection of three additional bursts 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^-3, as determined in our analysis of bursts discovered using the Onsala telescope (ATel #14605, Kirsten et al., in prep.).

Burst 1:
Fluence: 58 +/- 5 Jy ms
Arrival Time (MJD): 59603.754507227

Burst 2:
Fluence: 37 +/- 5 Jy ms
Arrival Time (MJD): 59603.799227754

Burst 3:
Fluence: >771 +/- 70 Jy ms
Arrival time (MJD): 59605.835730597

Arrival times are referenced to infinite frequency at the solar system barycentre (in TDB) using a DM of 410.775 pc cm^-3 and DM constant 4.14880568679703 GHz^2 cm^3 pc^-1 ms. The fluence of Burst 3 is only a lower limit as we are recording raw voltage data with 2-bit quantisation. This introduces quantisation noise lowering the measured

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value compared to the real fluence. This will be corrected for in a forthcoming paper. Likewise, a full spectro-polarimetric analysis at microsecond-resolution will be presented elsewhere.

Bursts 1 and 2 are separated by roughly 1.07 hours in time. Burst 3 was detected in observations taken two days later. We spent 2.5 hours on source in each run, implying burst rates of ~1/hour above our detection limit of ~10 Jy ms.

The subsequent detection of three additional bursts from FRB 20201124A, combined with the single detection on MJD 59602 (ATel #15190), strongly suggests that the source has started a new activity cycle. We therefore encourage follow-up observations at all wavelengths.

Dedispersed plot of the bursts

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