



**Extended Data Figure 4 | Example of RM Synthesis and RMCLEAN results for burst 8.** The relevant rotation measure range is shown for burst 8, after analysis with RM Synthesis (dashed line) and RMCLEAN (solid line), as described in the main text. Only two clean components (red circles) were required to reach convergence in the deconvolution

algorithm (at 102,679.5  $\text{rad m}^{-2}$  and 102,679.75  $\text{rad m}^{-2}$ ; compare with the peak of the final deconvolved Faraday spectrum at 102,679.65  $\text{rad m}^{-2}$ ). For all bursts, the RM Synthesis and RMCLEAN steps demonstrate an extremely thin and single-peaked Faraday spectrum.