Type III Solar Radio Burst Imaging with the Murchison Widefield Array

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https://arxiv.org/abs/1711.04930

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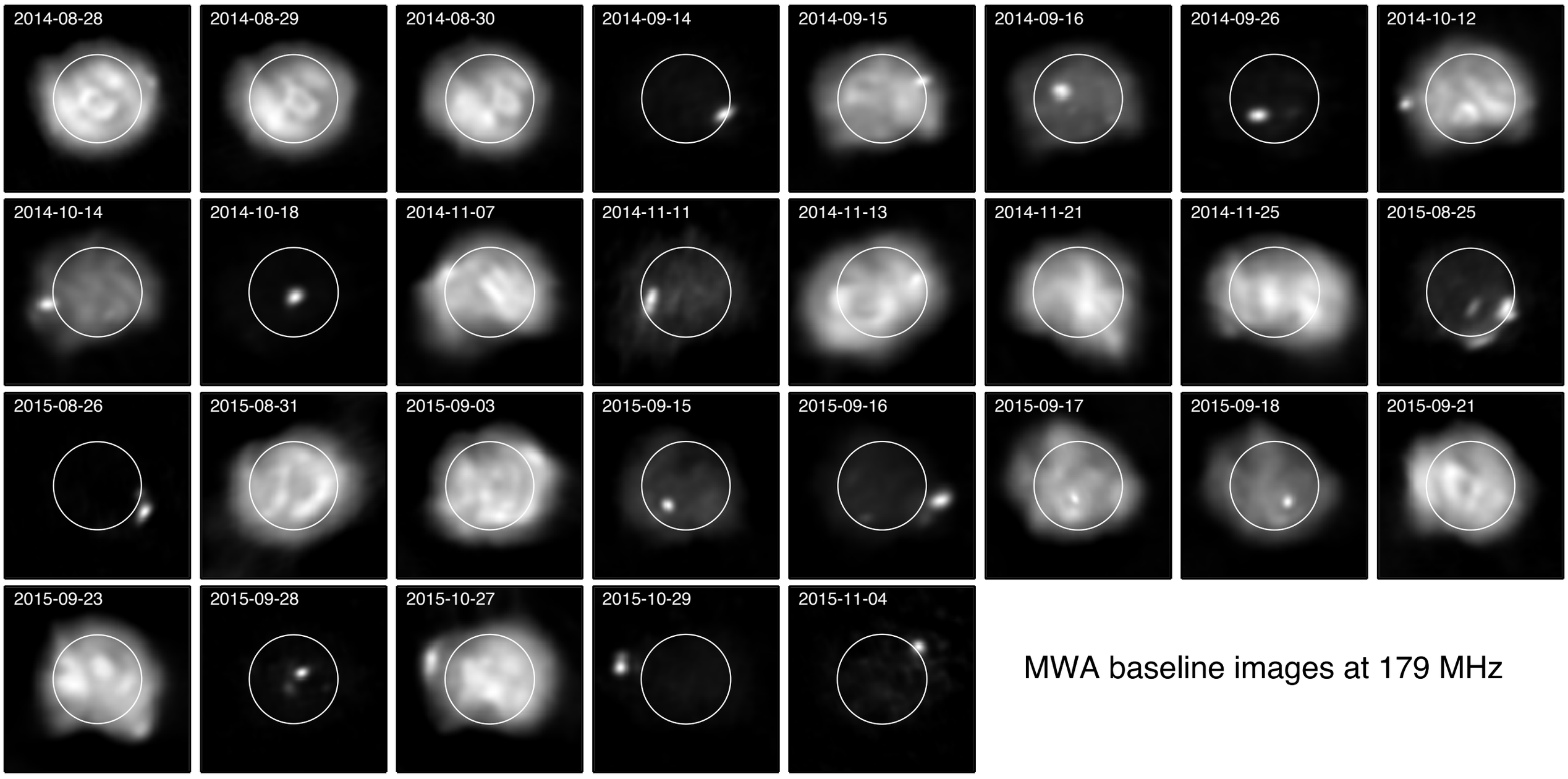
2. International Centre for Radio Astronomy Research, Curtin University, Perth, Australia
3. National Center for Atmospheric Research (NCAR), Boulder CO, USA
4. MIT Haystack Observatory, Westford MA, USA
5. National Centre for Radio Astrophysics, Tata Institute for Fundamental Research, Pune, India

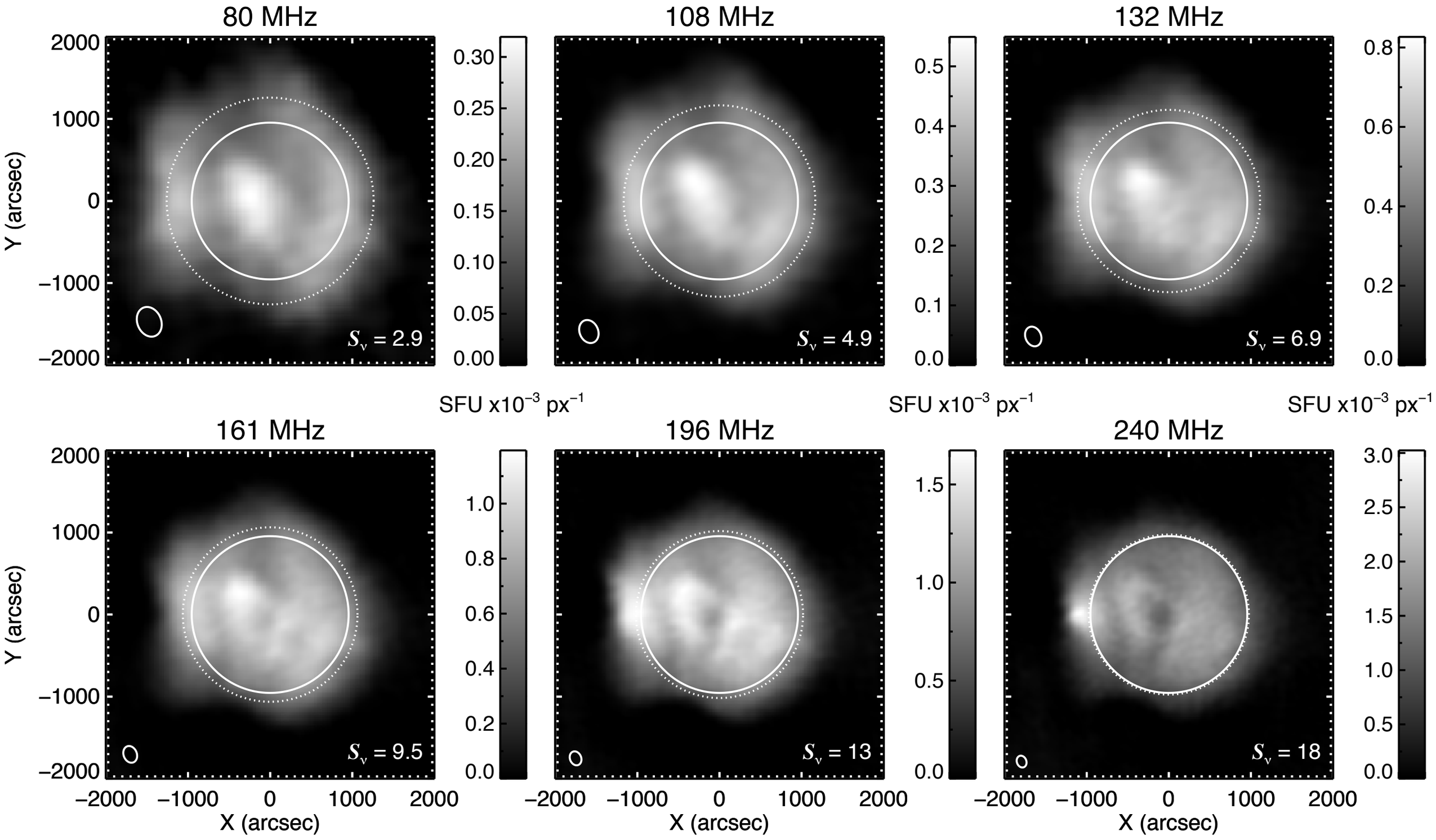
Type III Burst Survey



MWA baseline images at 179 MHz

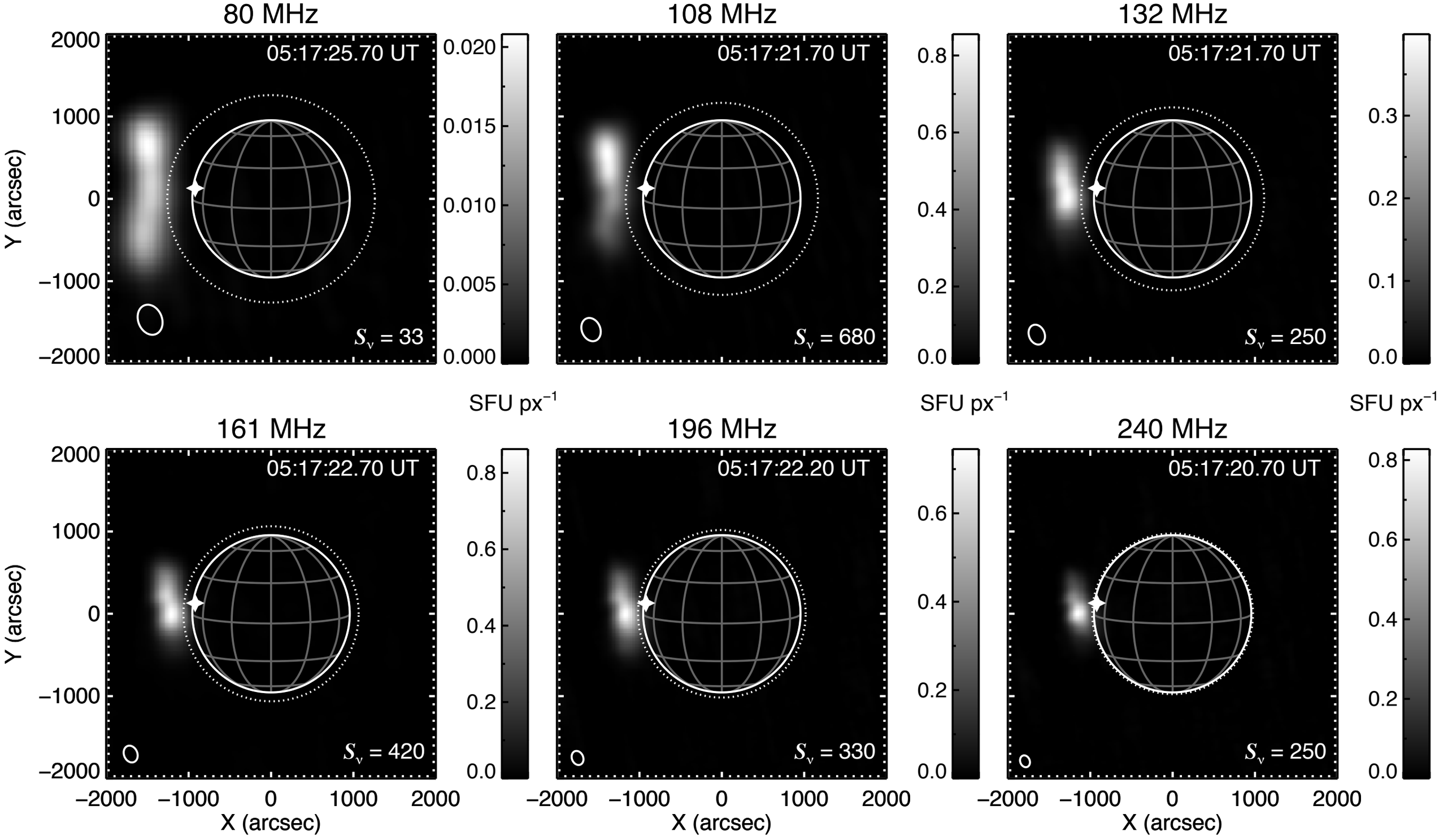
Sample of 41 OBSIDs on 29 days

MWA Images from 2015/09/21



1 Solar Flux Unit (SFU) = 10^4 Jy

MWA Images from 2015/09/21



1 Solar Flux Unit (SFU) = 10^4 Jy

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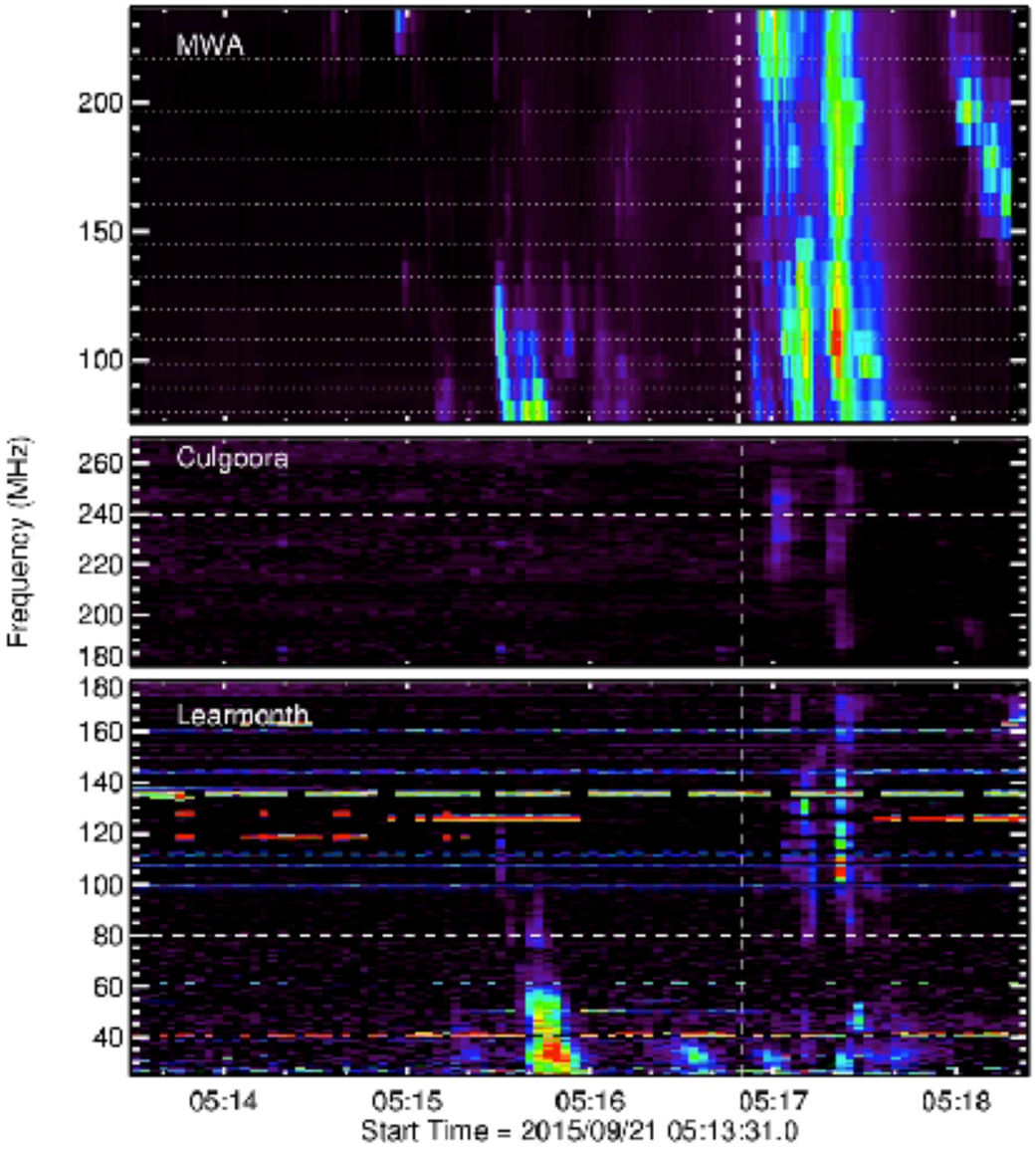
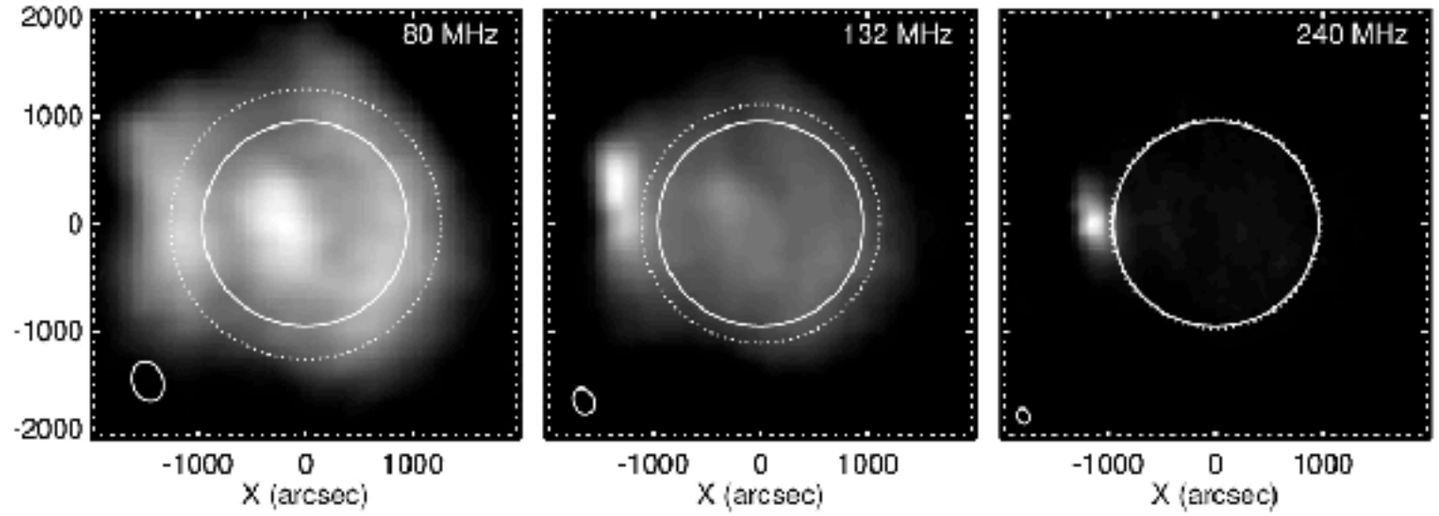
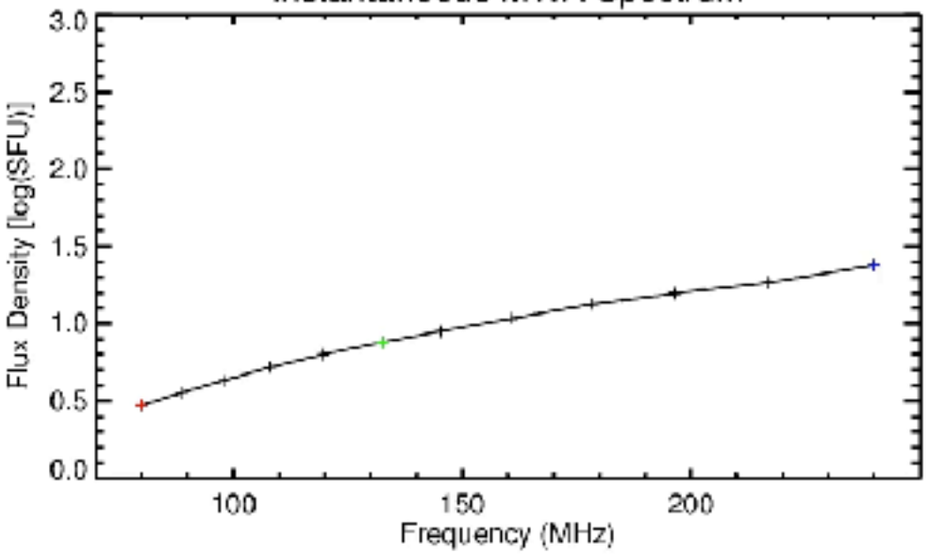
Background-Subtracted Dynamic Spectra



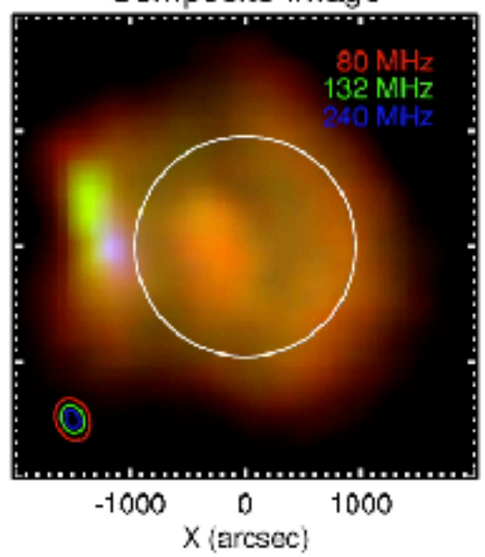
MWA Images



Instantaneous MWA Spectrum



Composite Image



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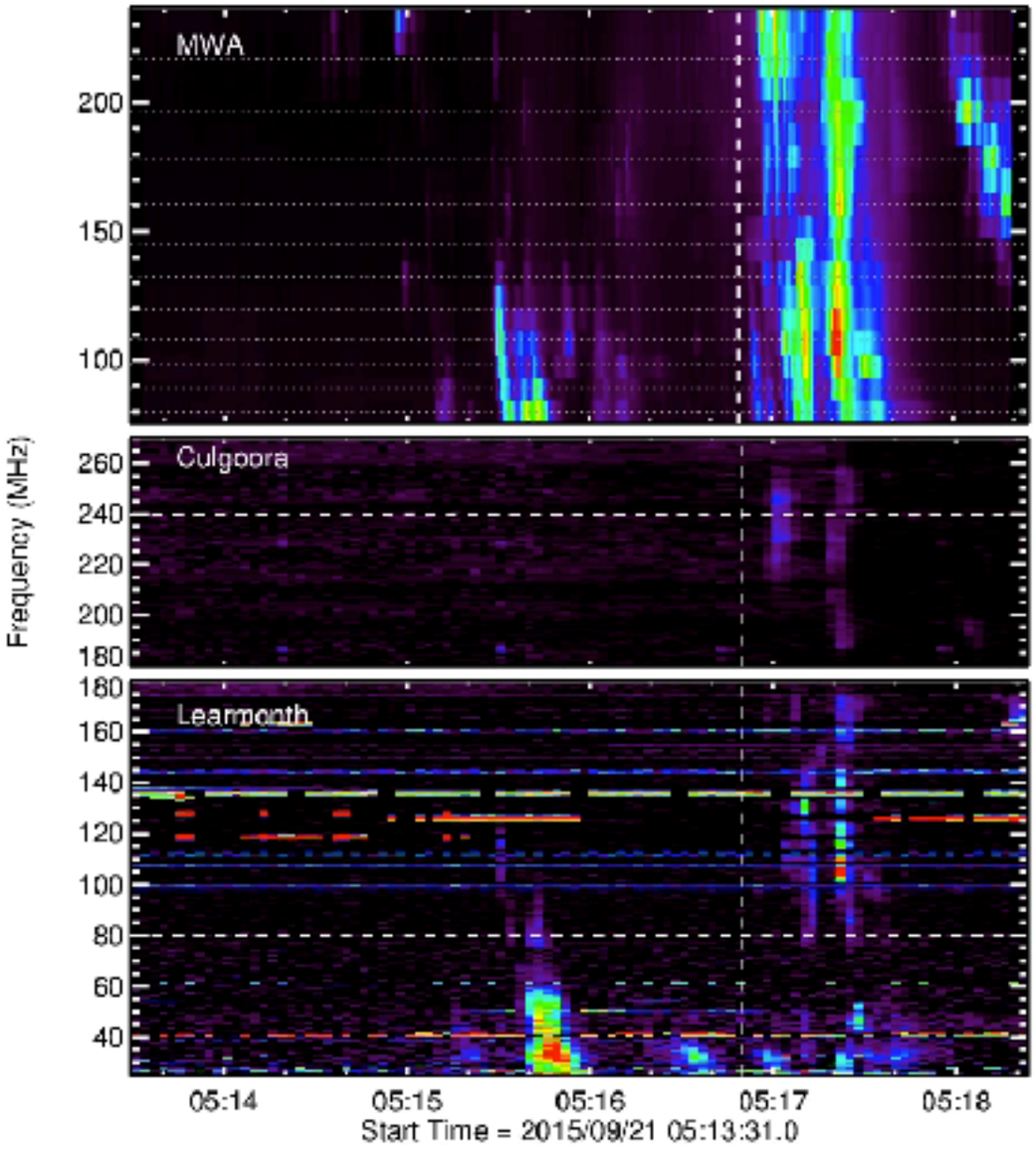
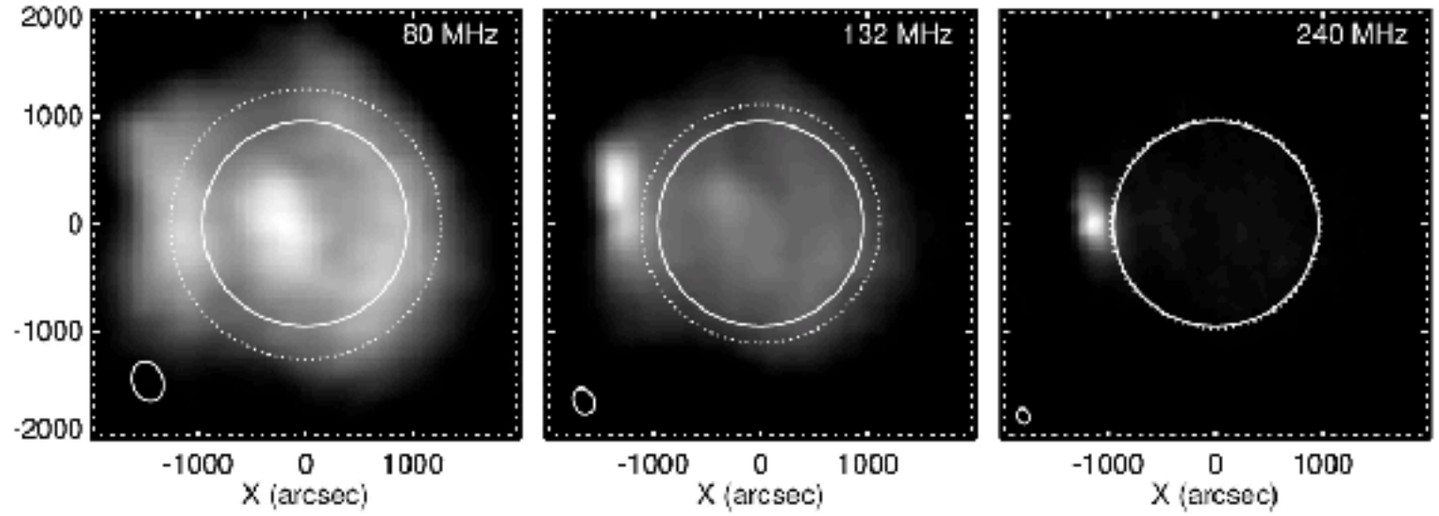


MWA Images



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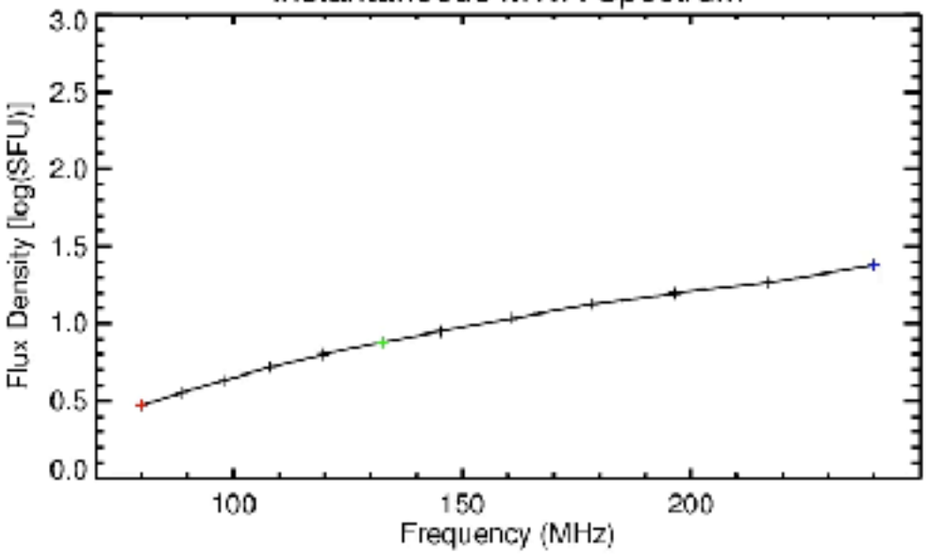

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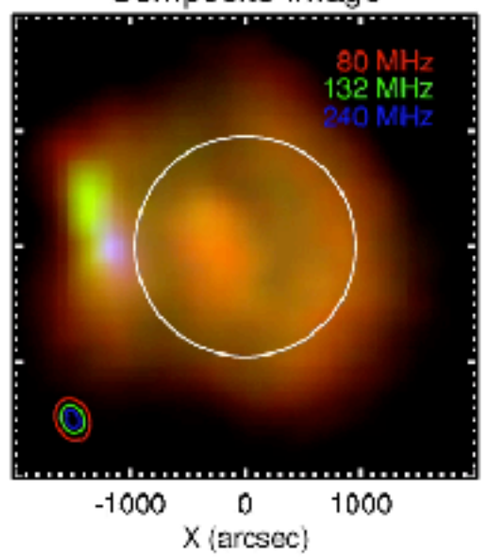
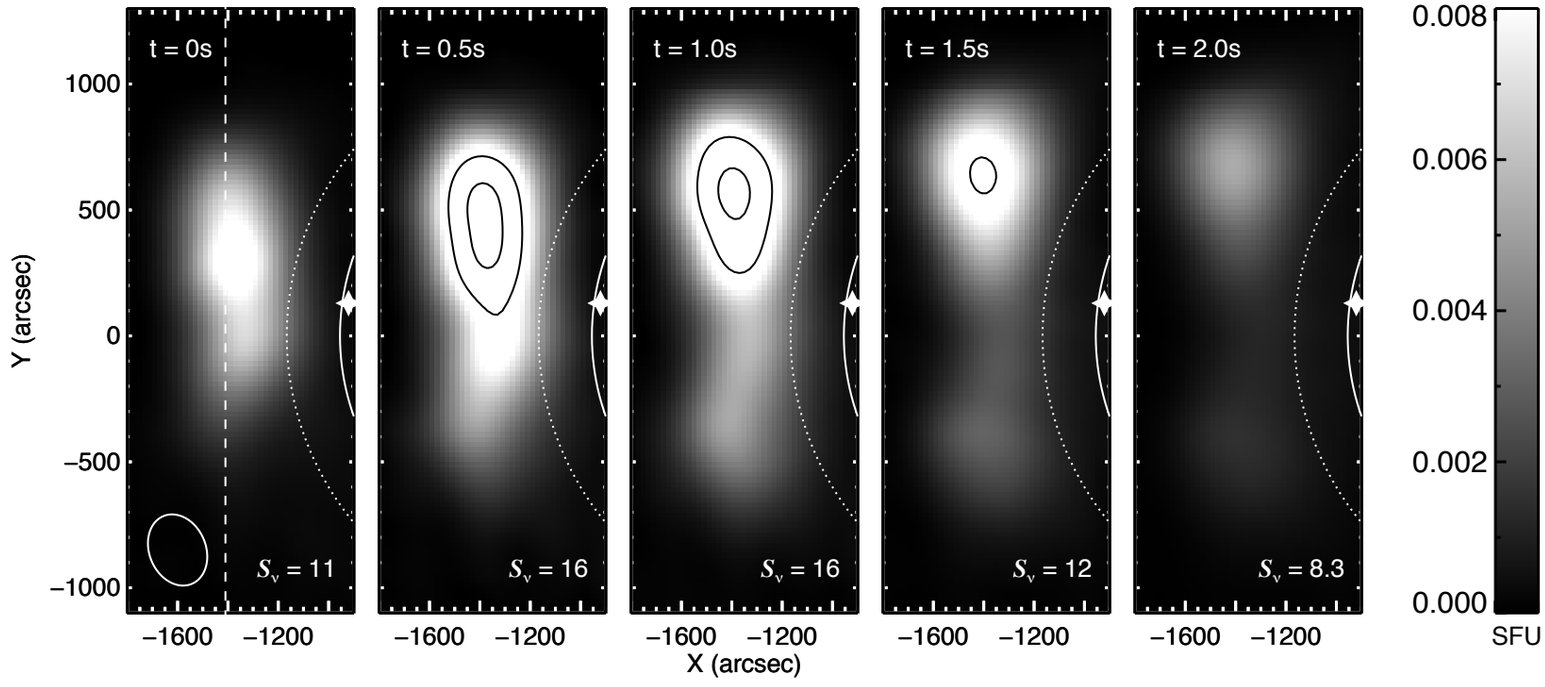


Radio Kinematics



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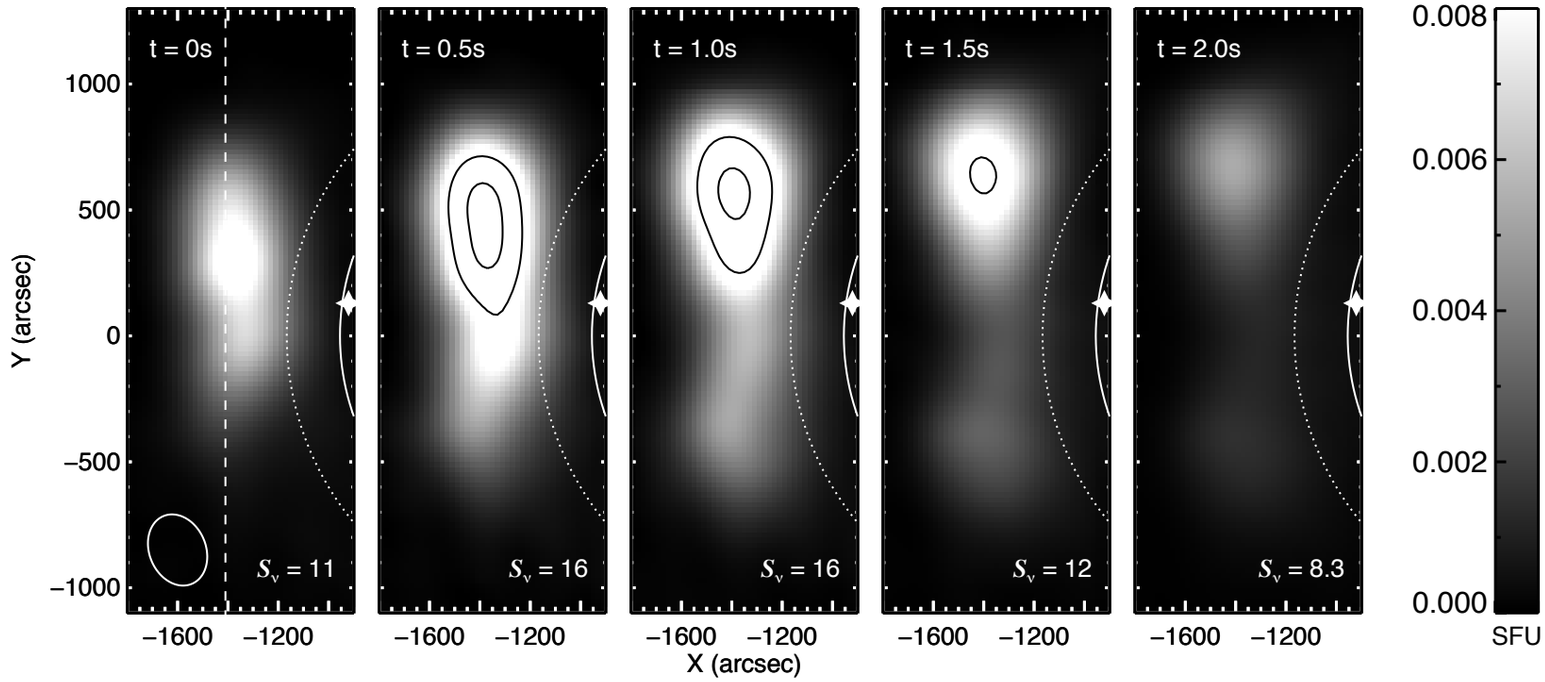
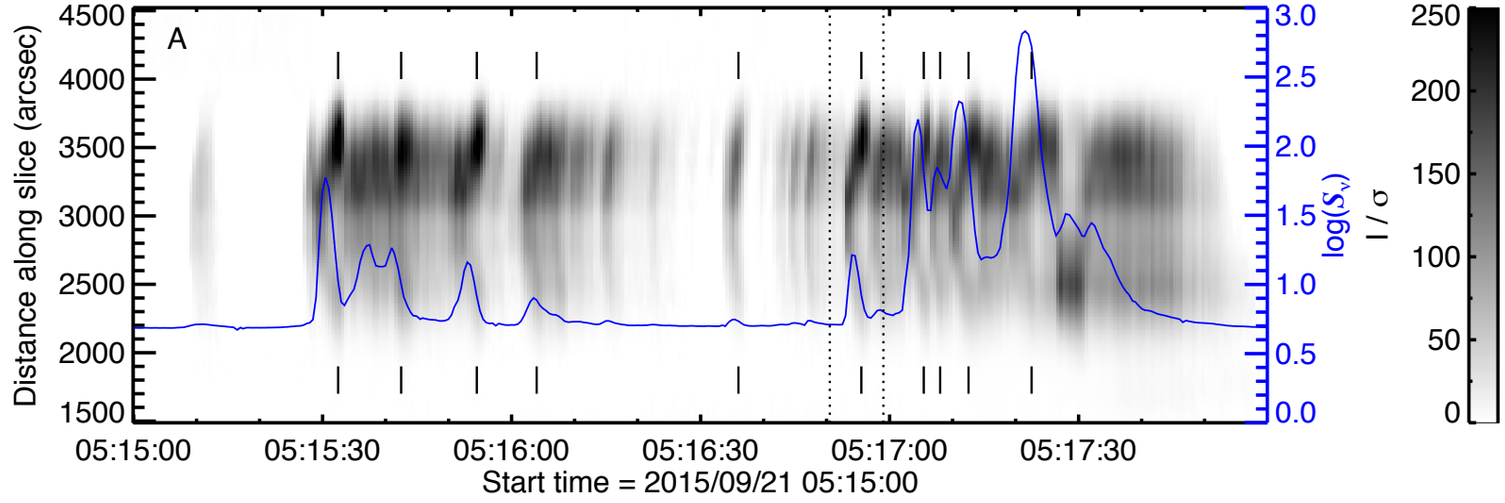
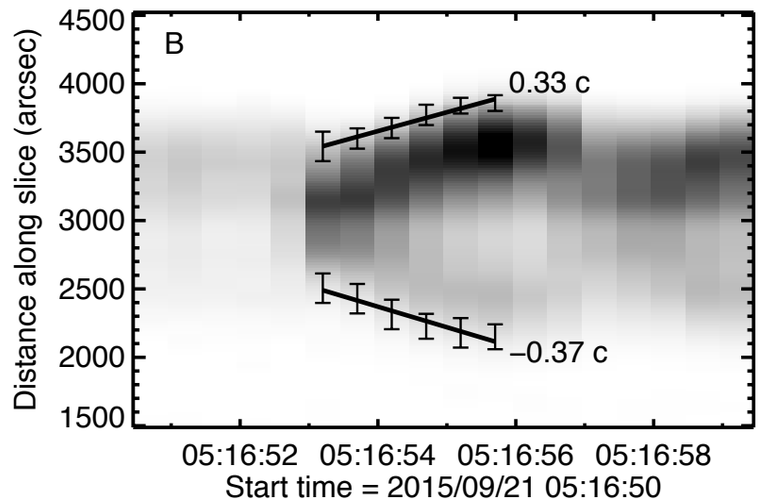
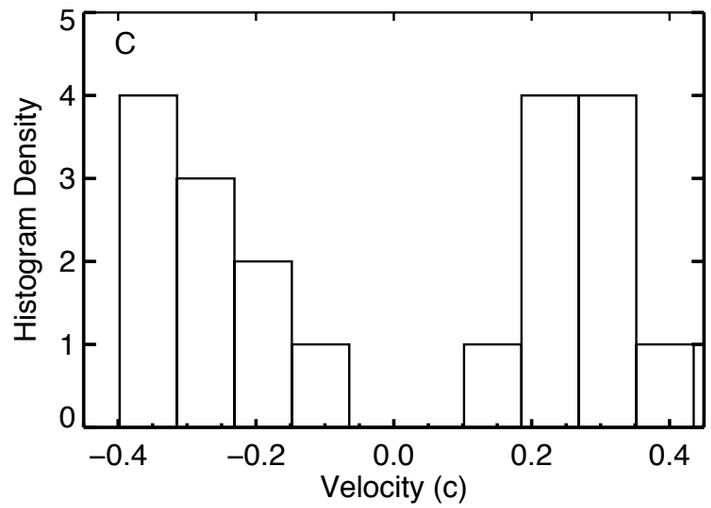
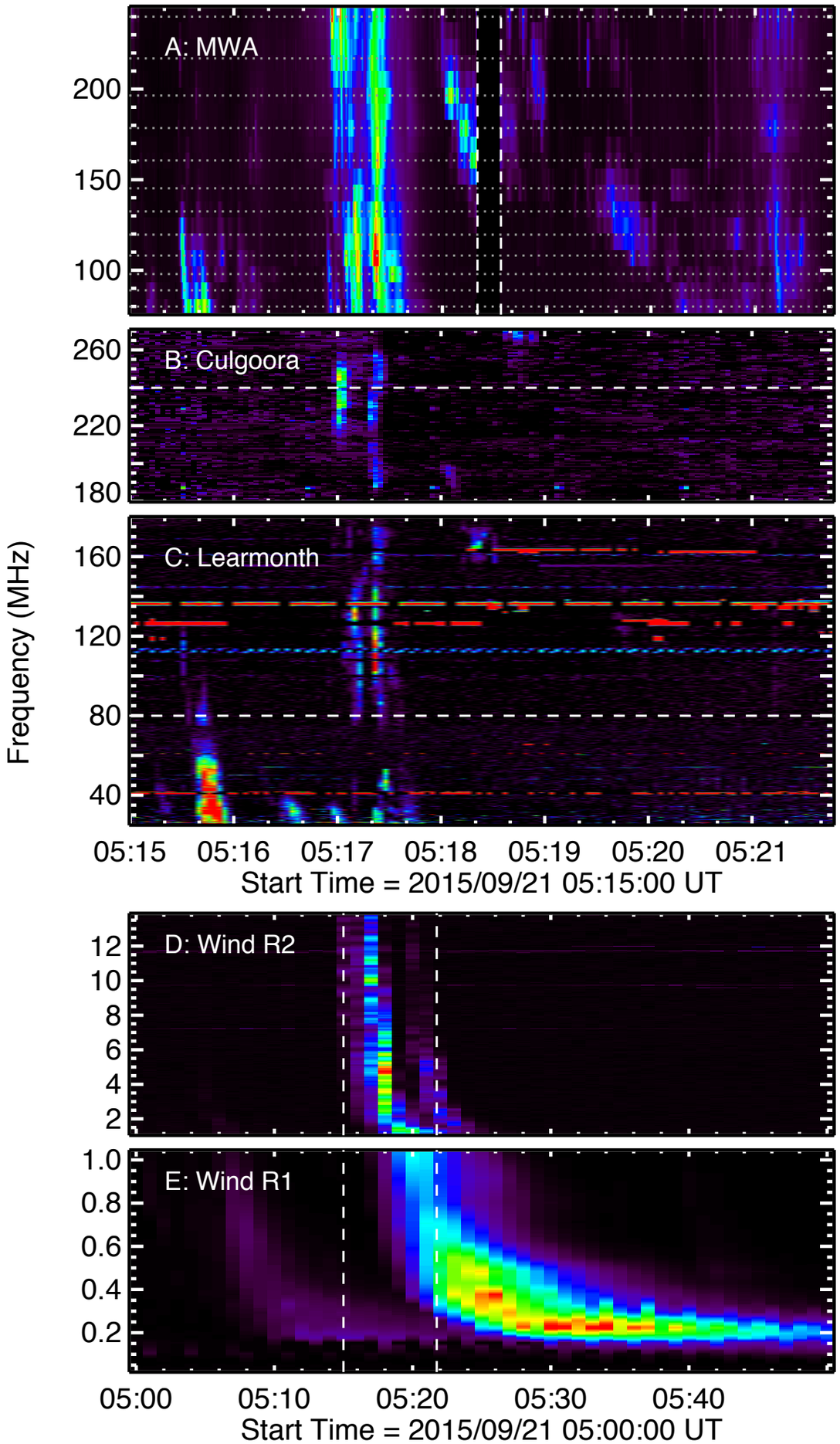








Event Context



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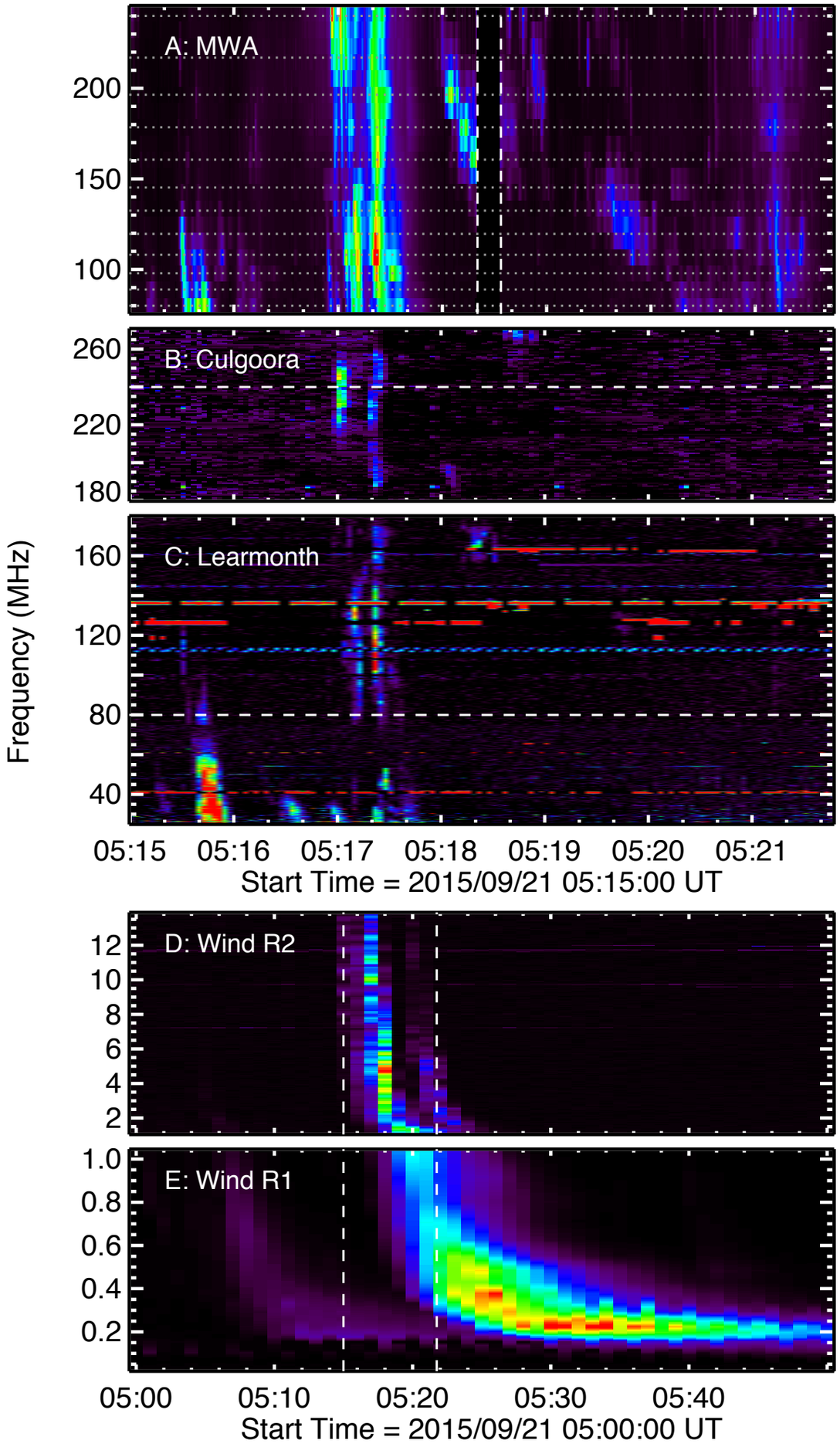
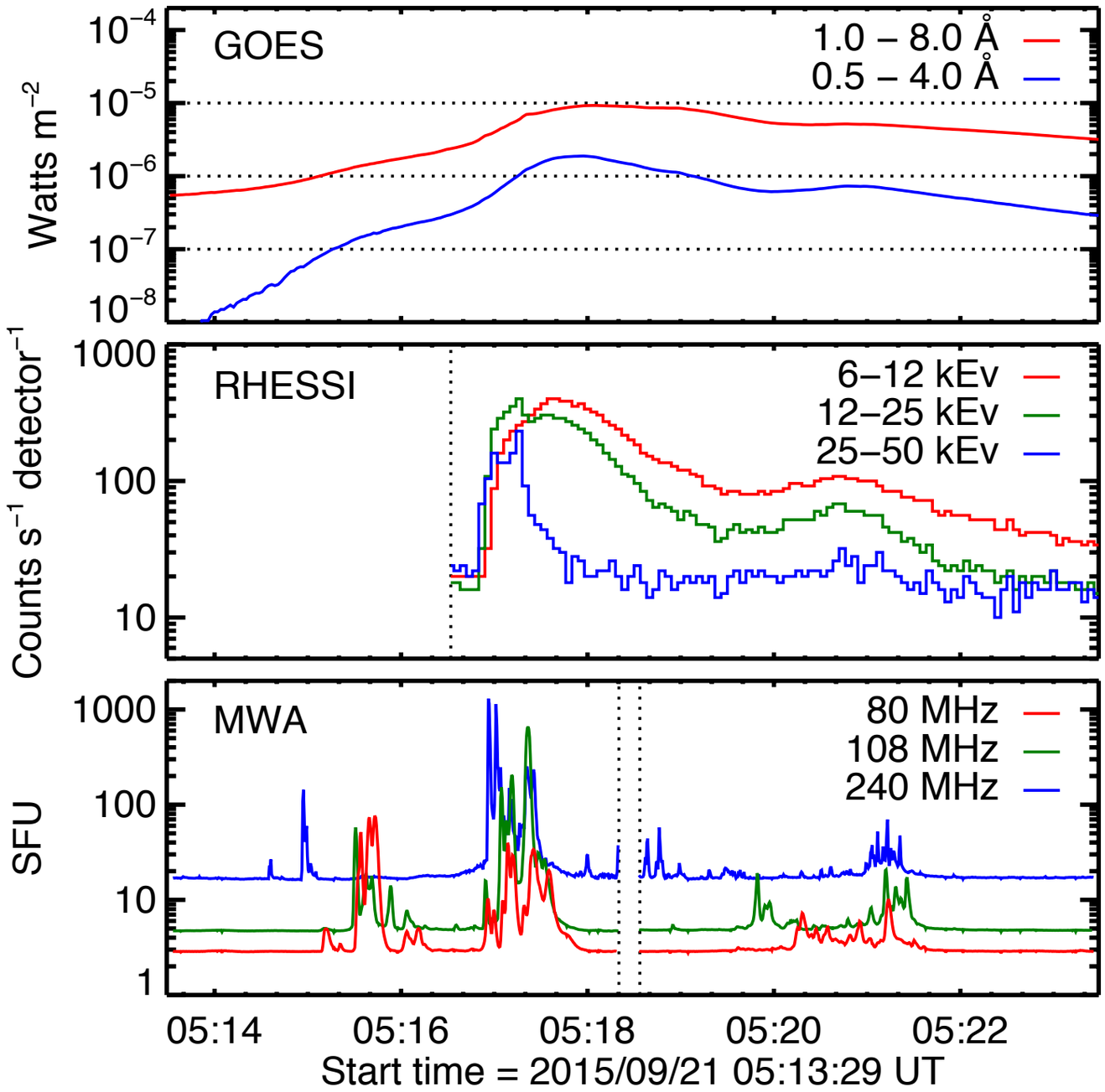
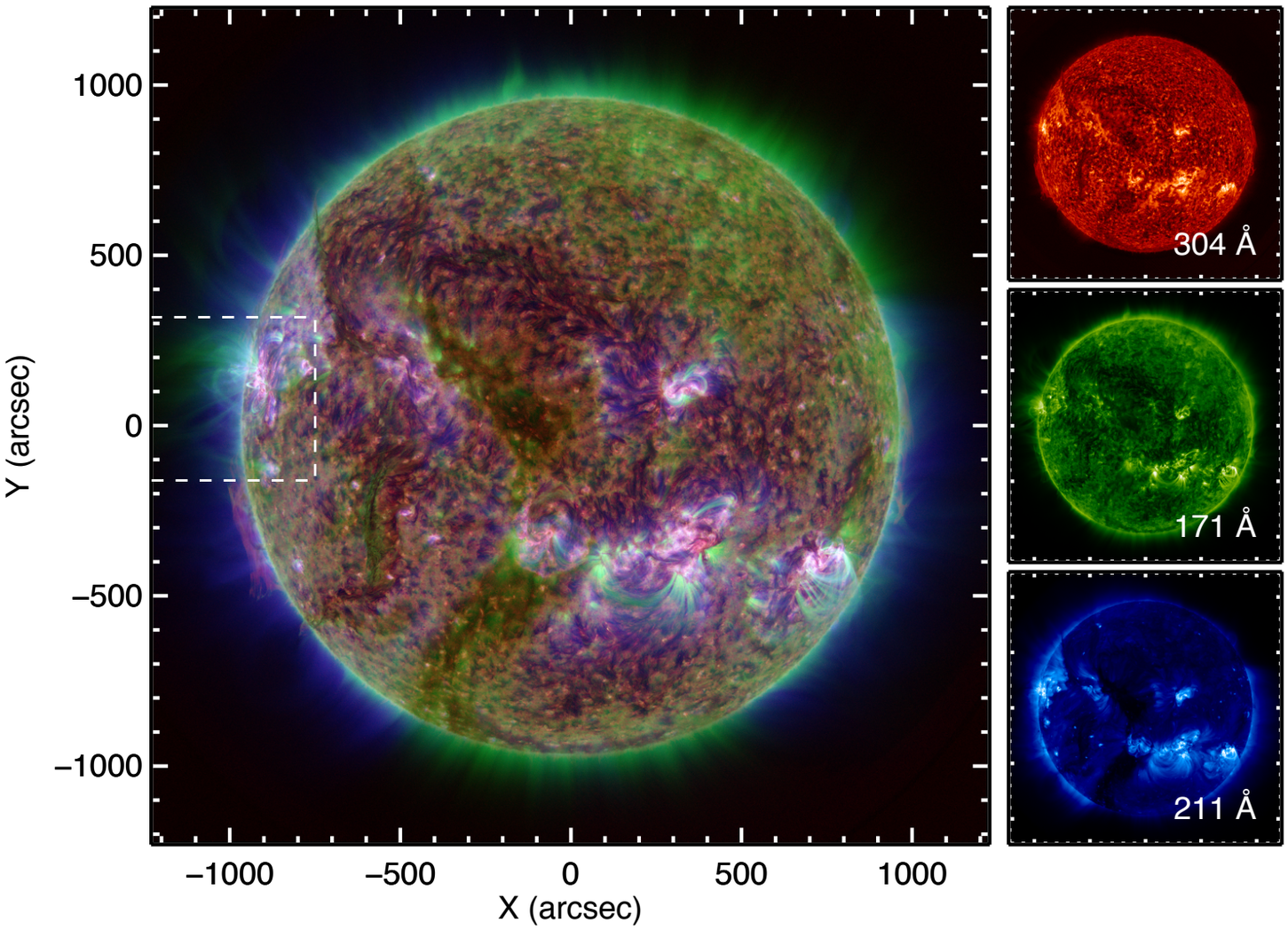
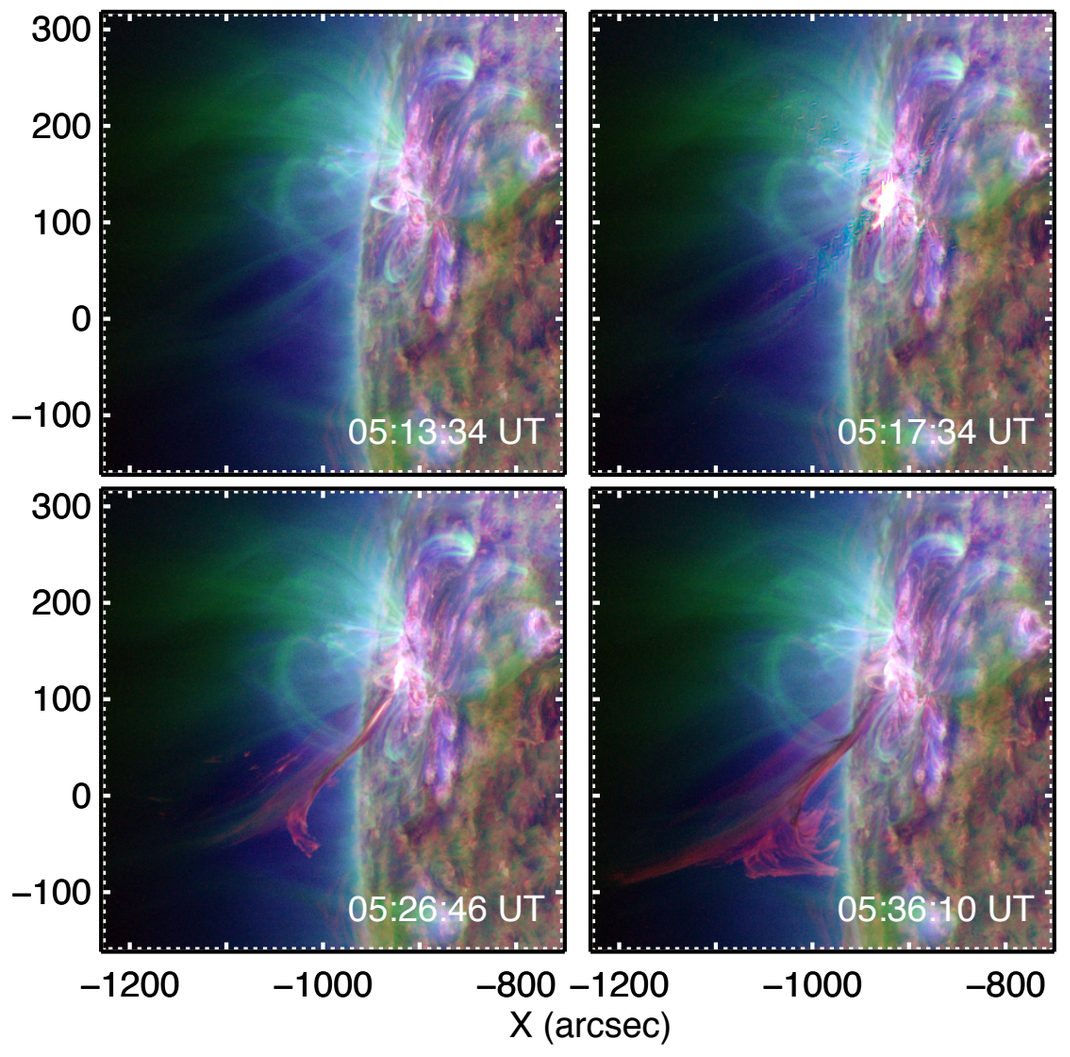


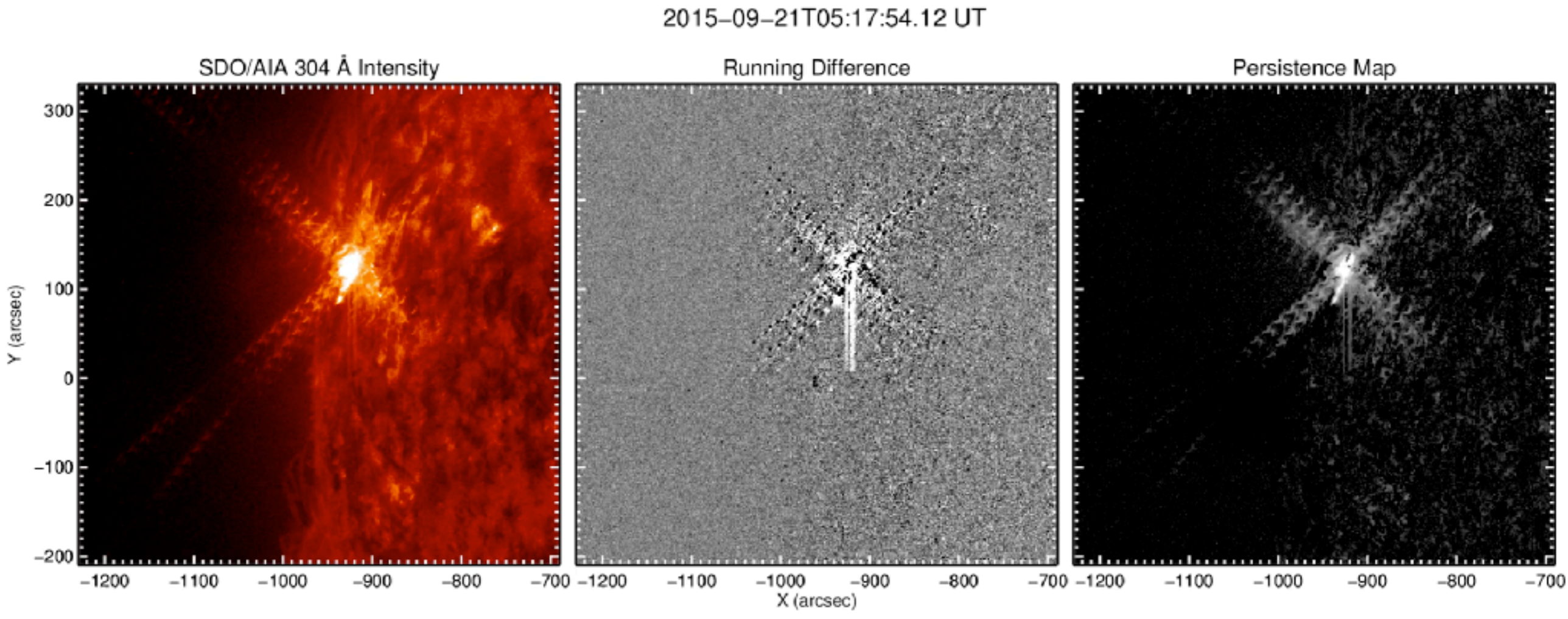


Solar Dynamics Observatory (SDO) Context





Extreme Ultraviolet (EUV) Jets



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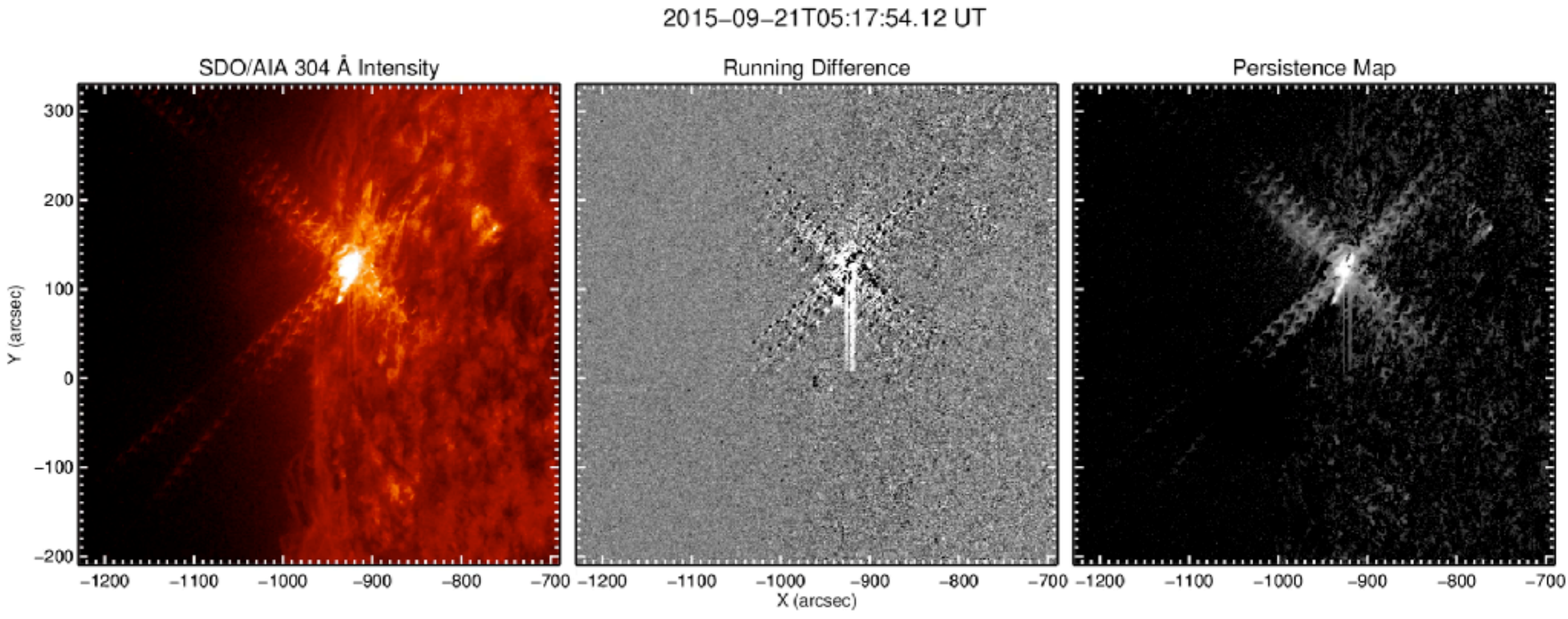
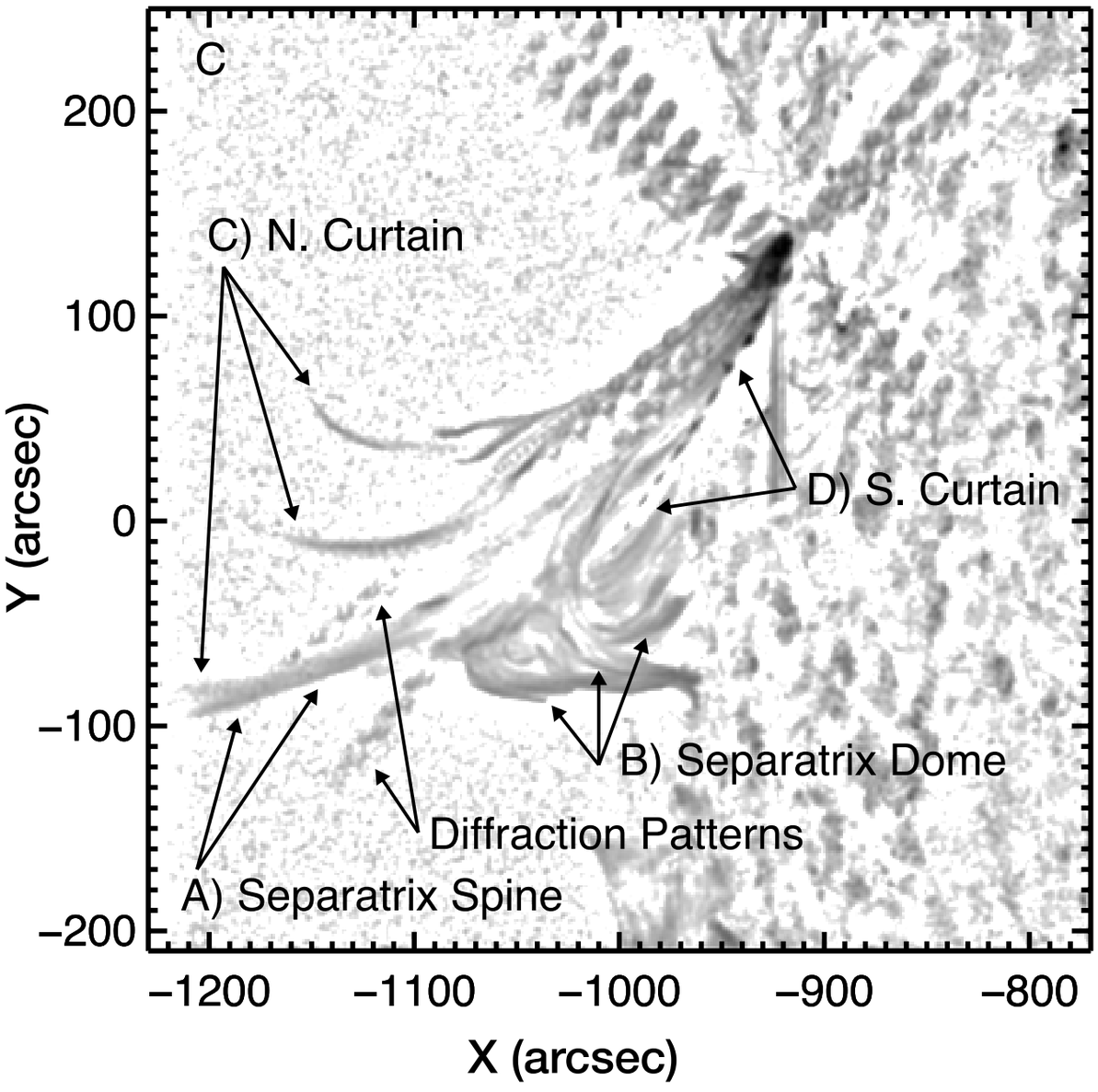


Quasi-Separatrix Layers (QSLs)



McCauley et al. (2017)

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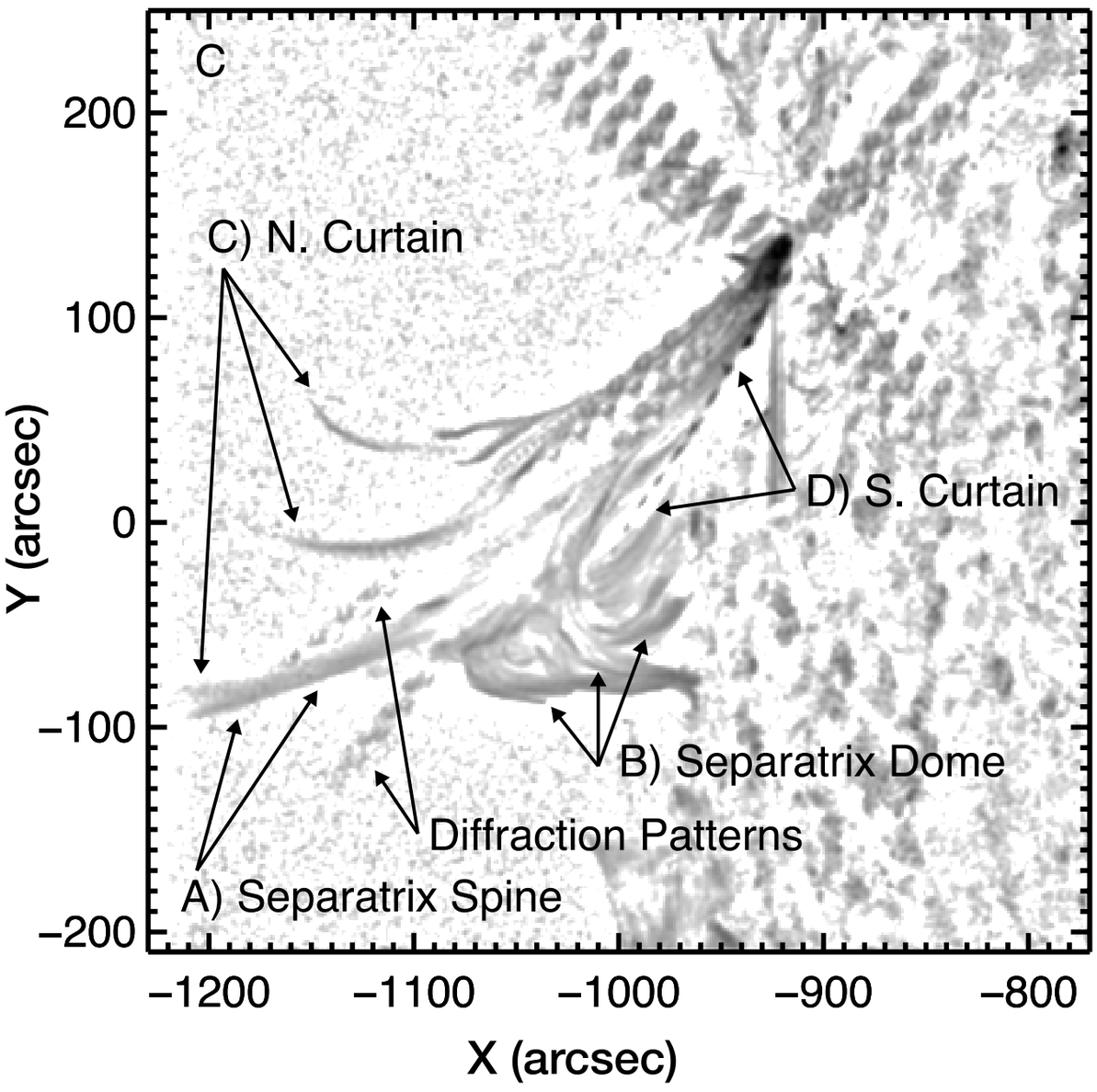
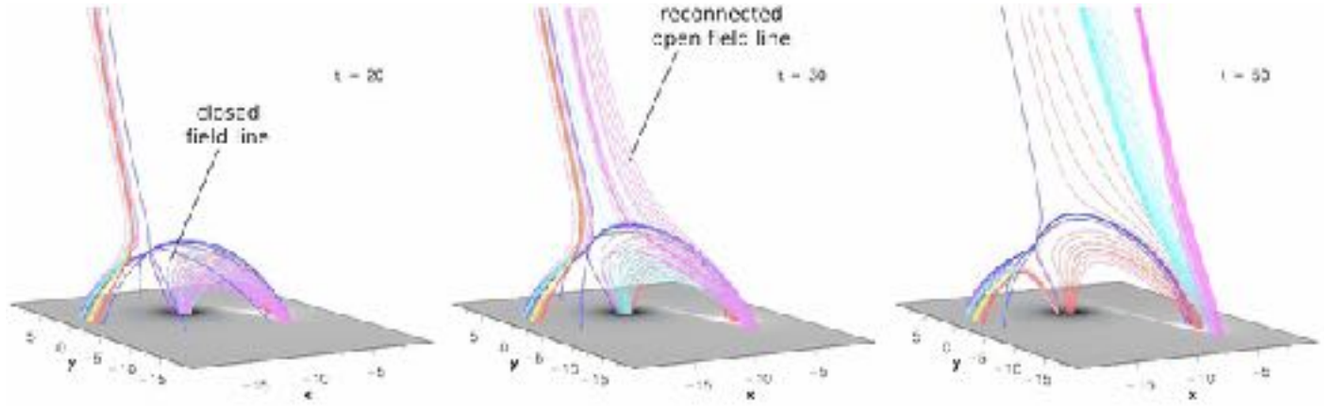


McCauley et al. (2017)



Masson et al. (2012)

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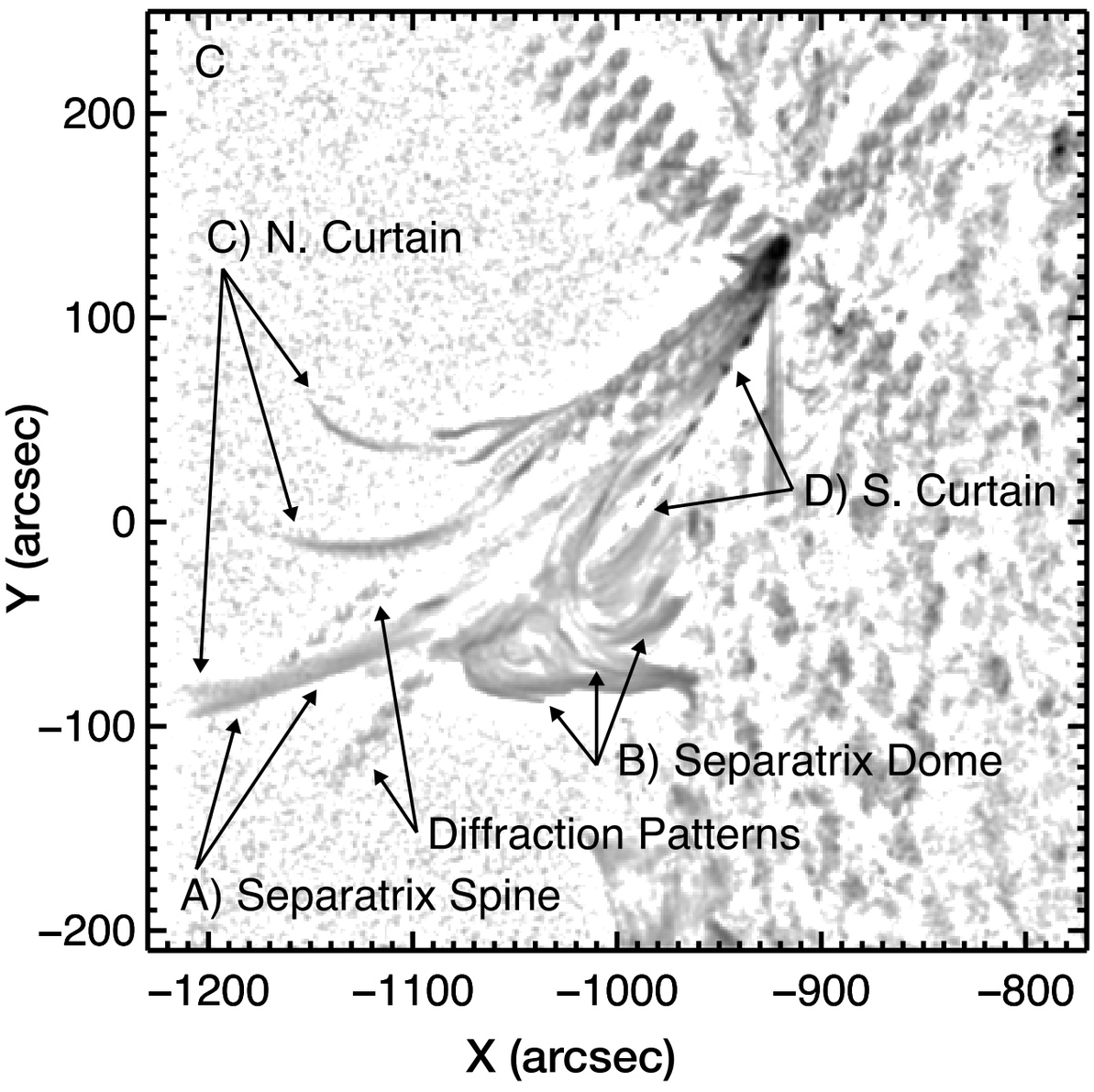

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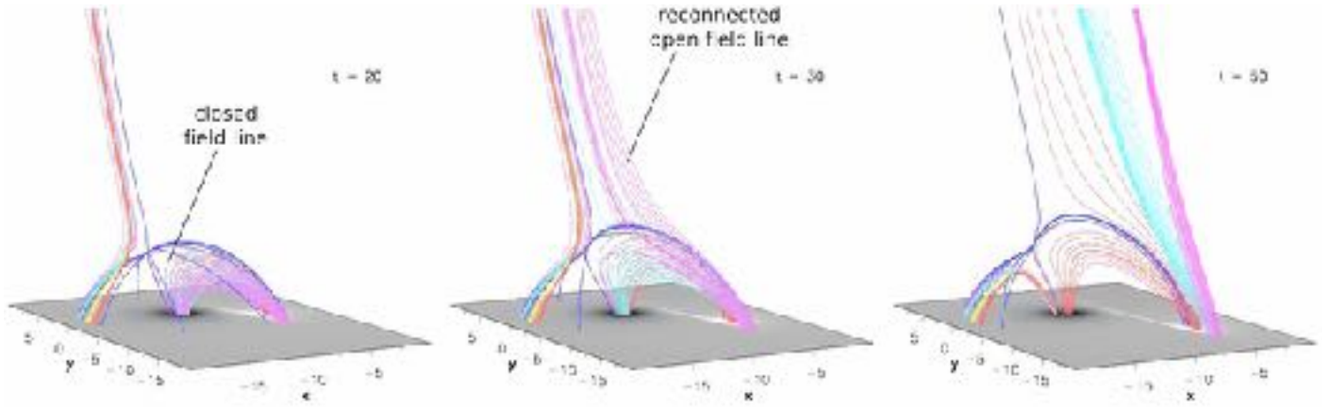
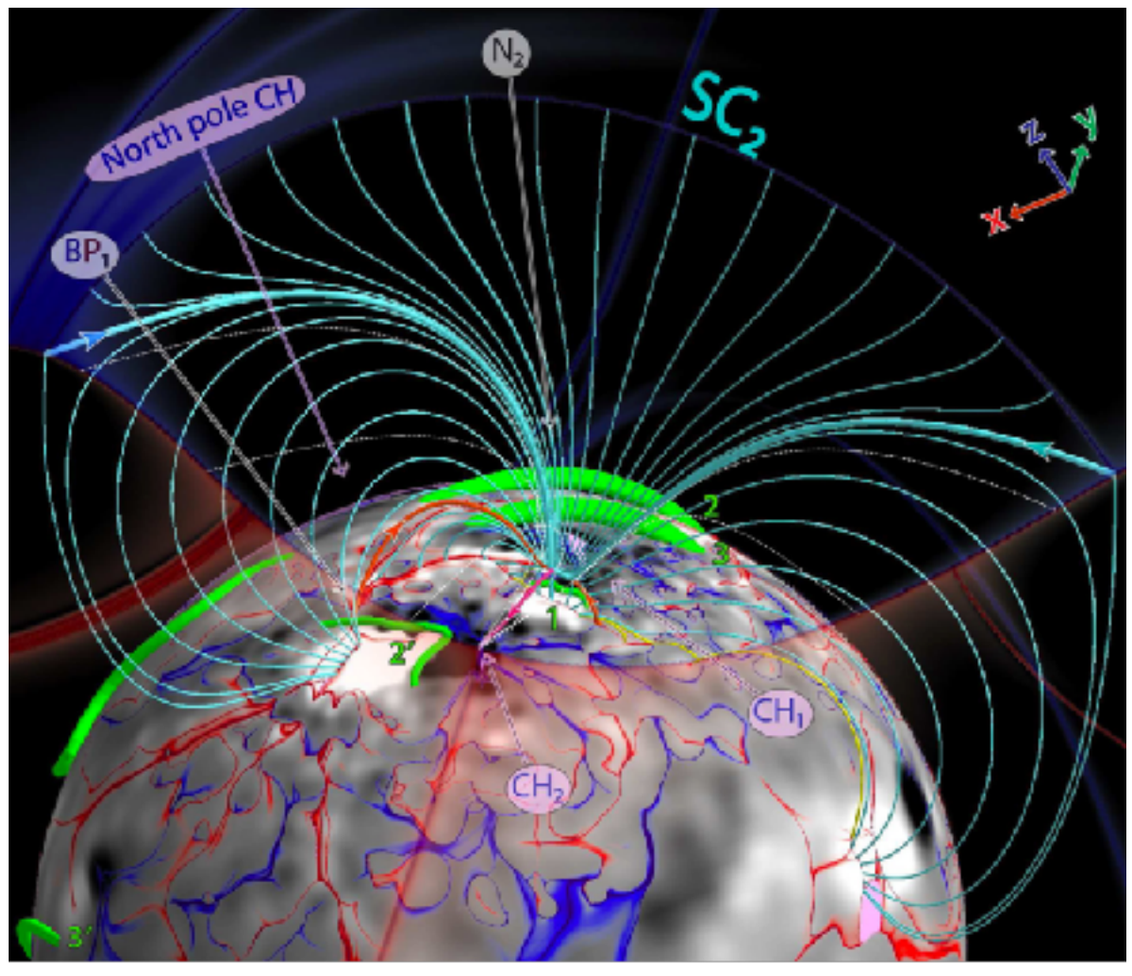
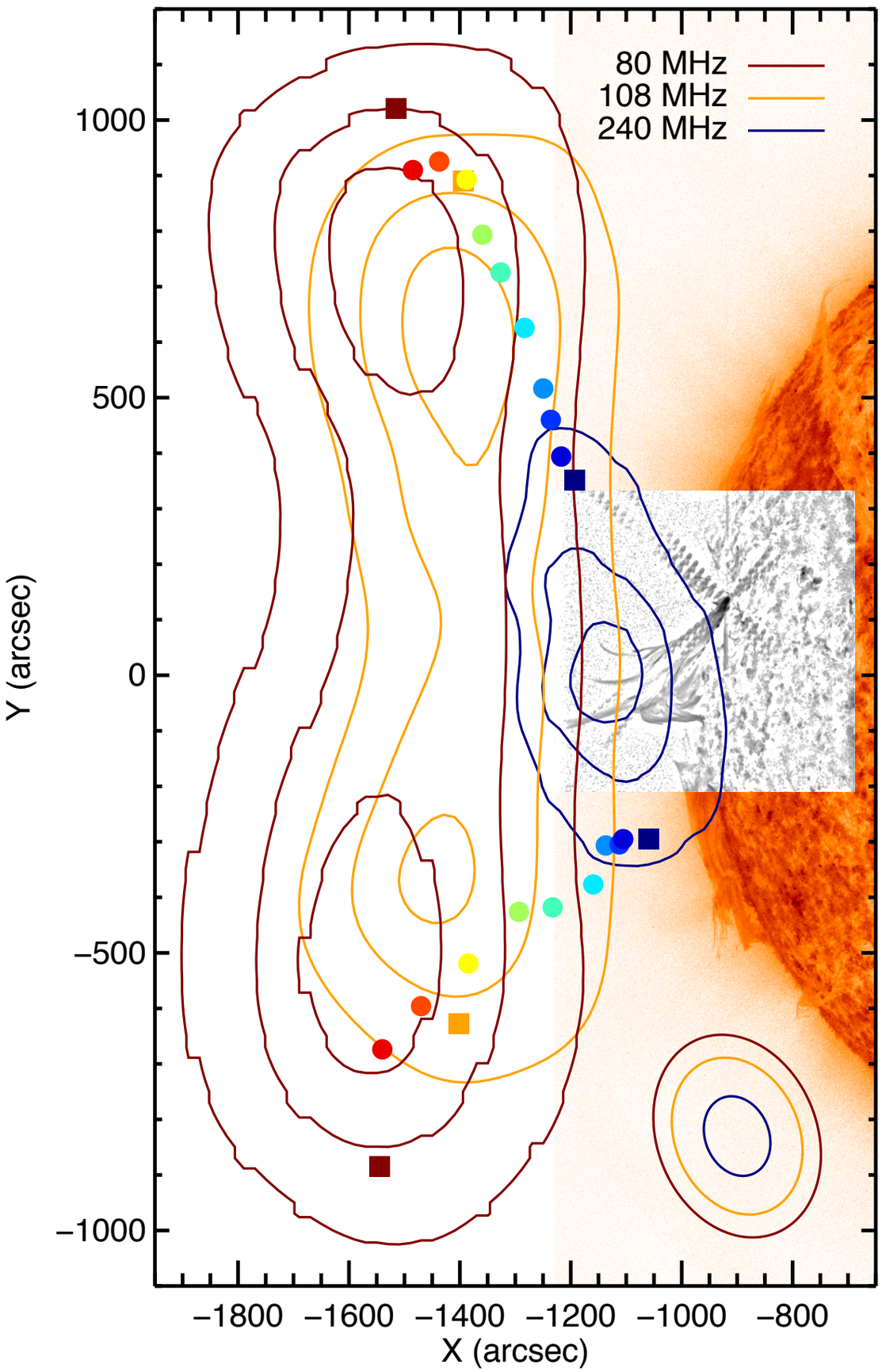


Masson et al. (2012)



Titov et al. (2012)

Type III Source Splitting Due to a QSL



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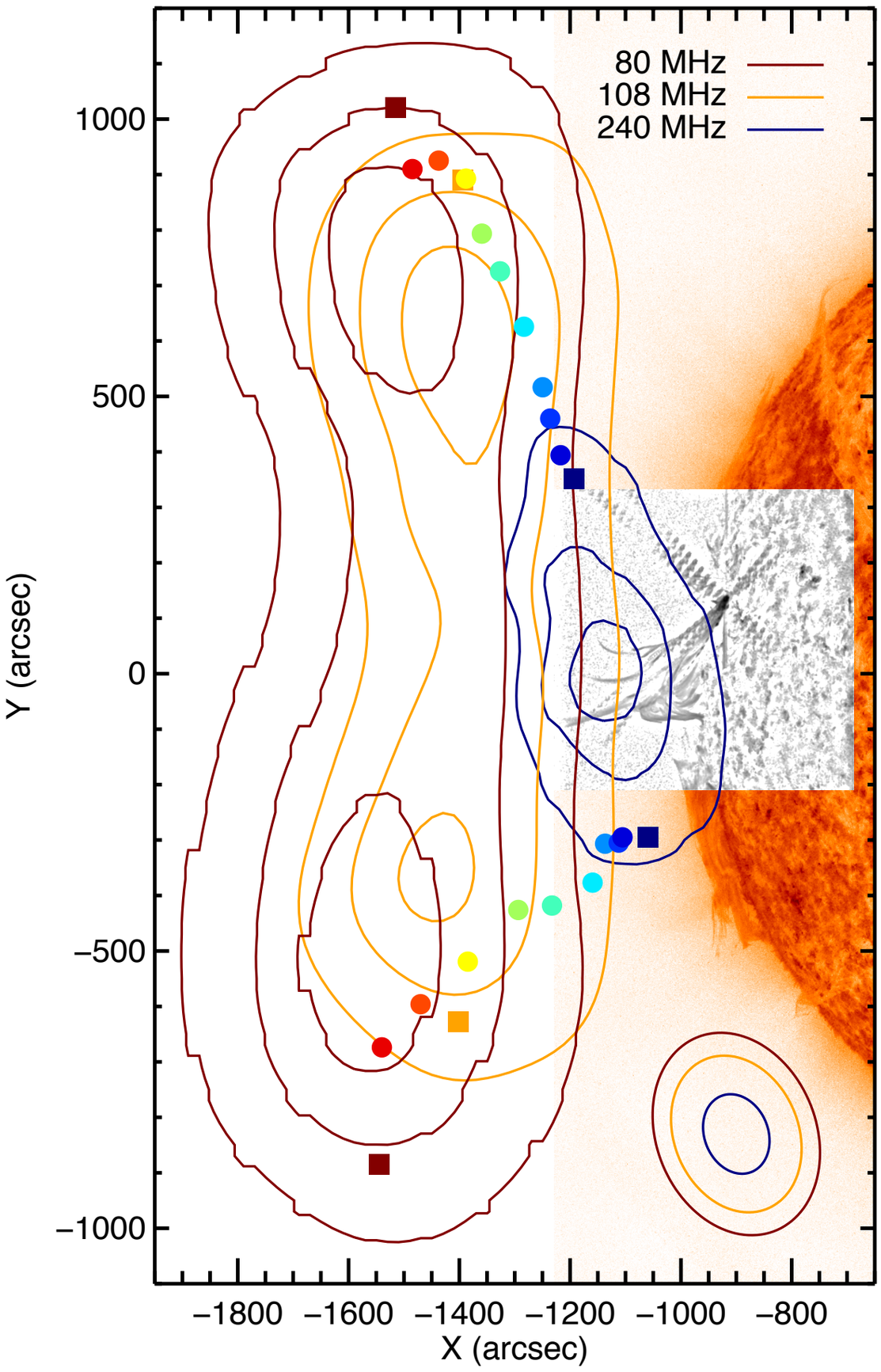

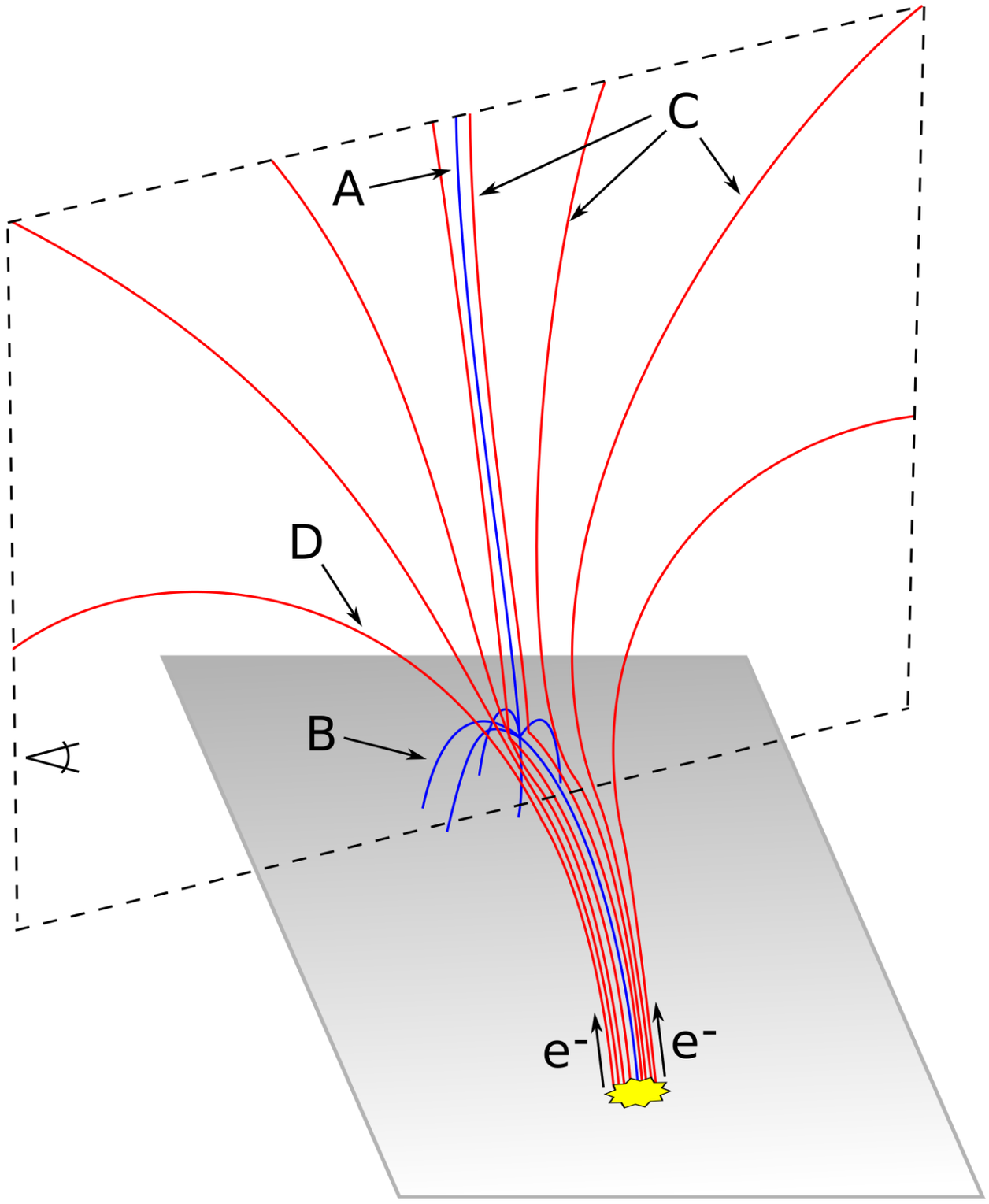

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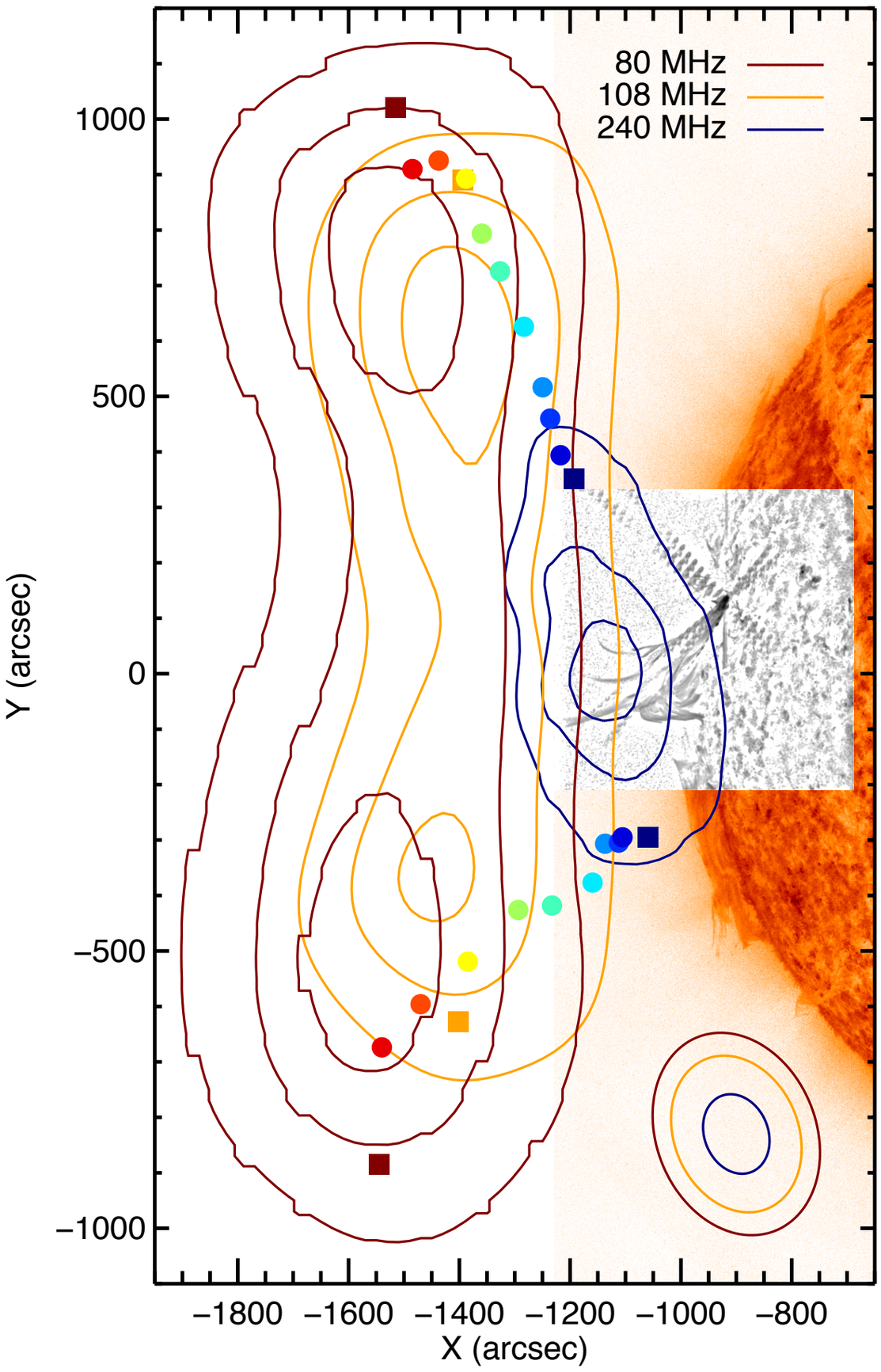

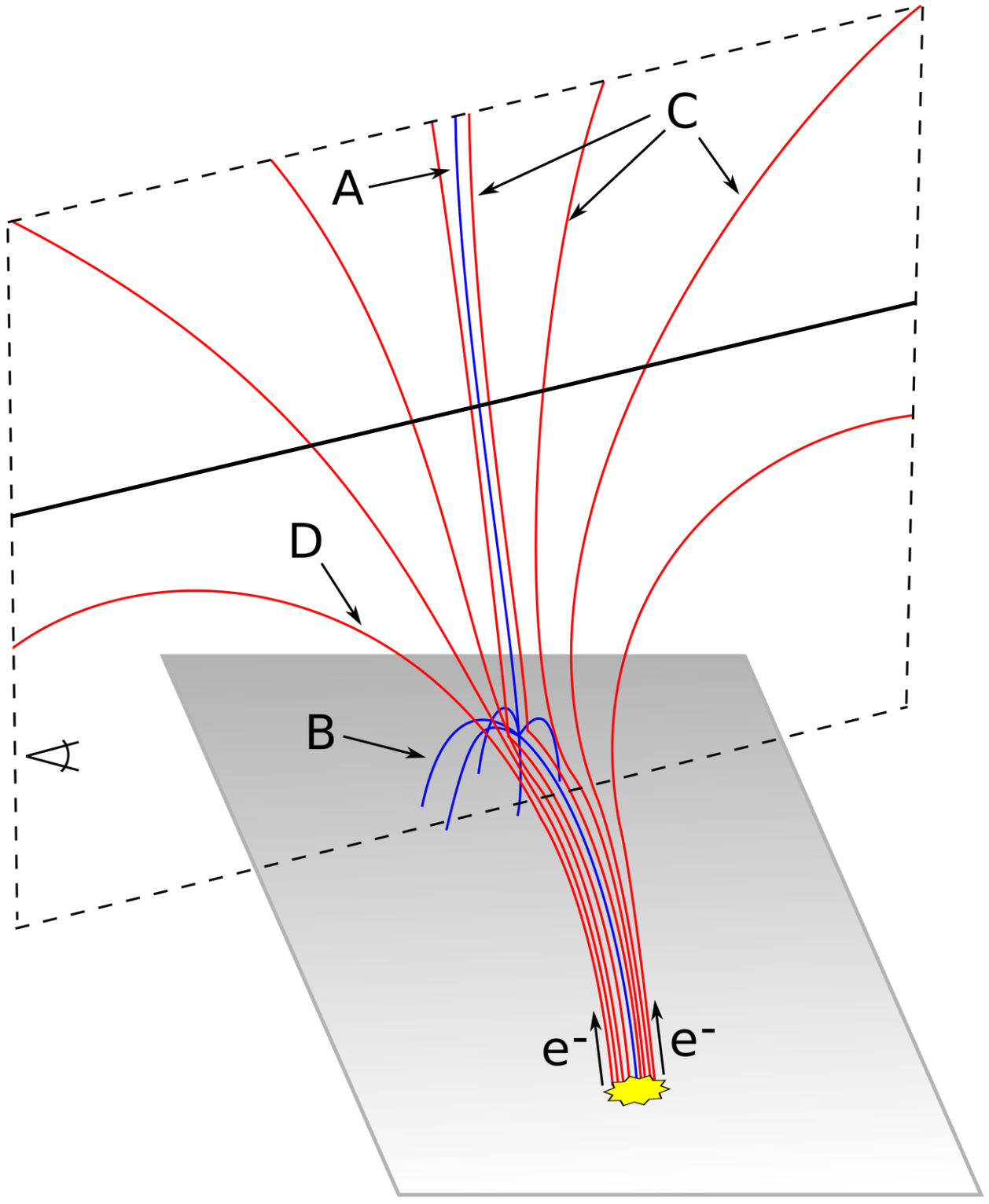

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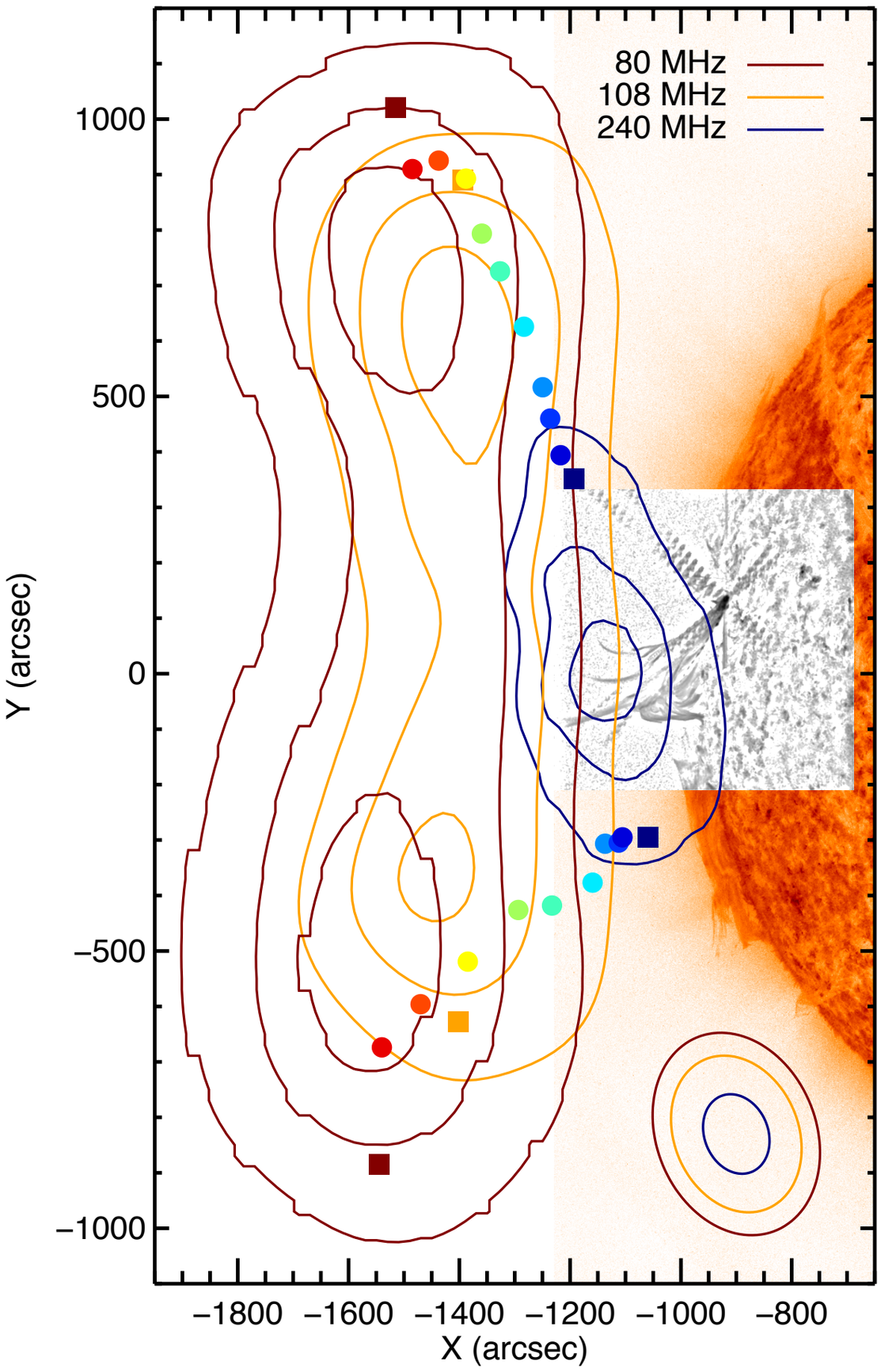

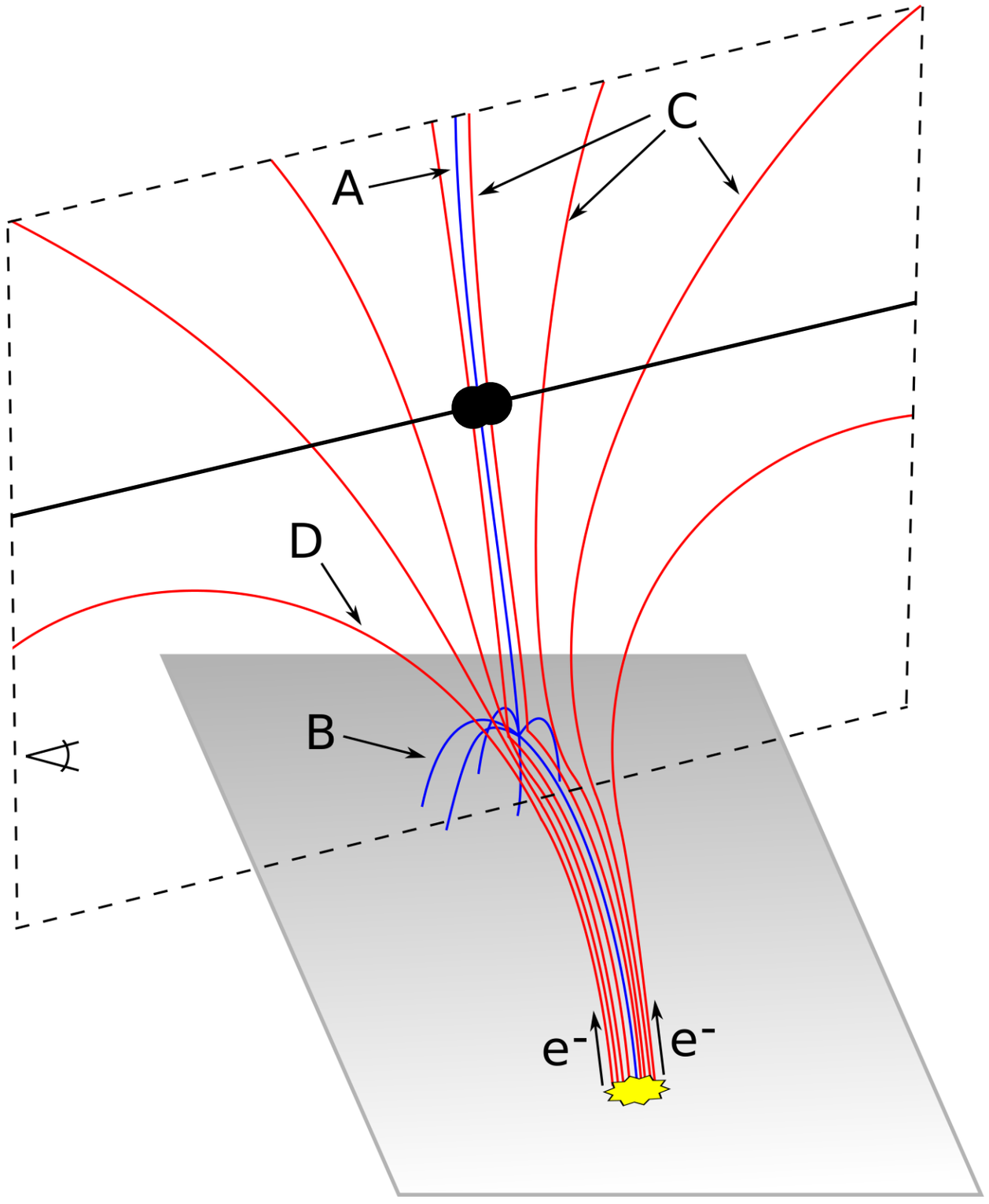

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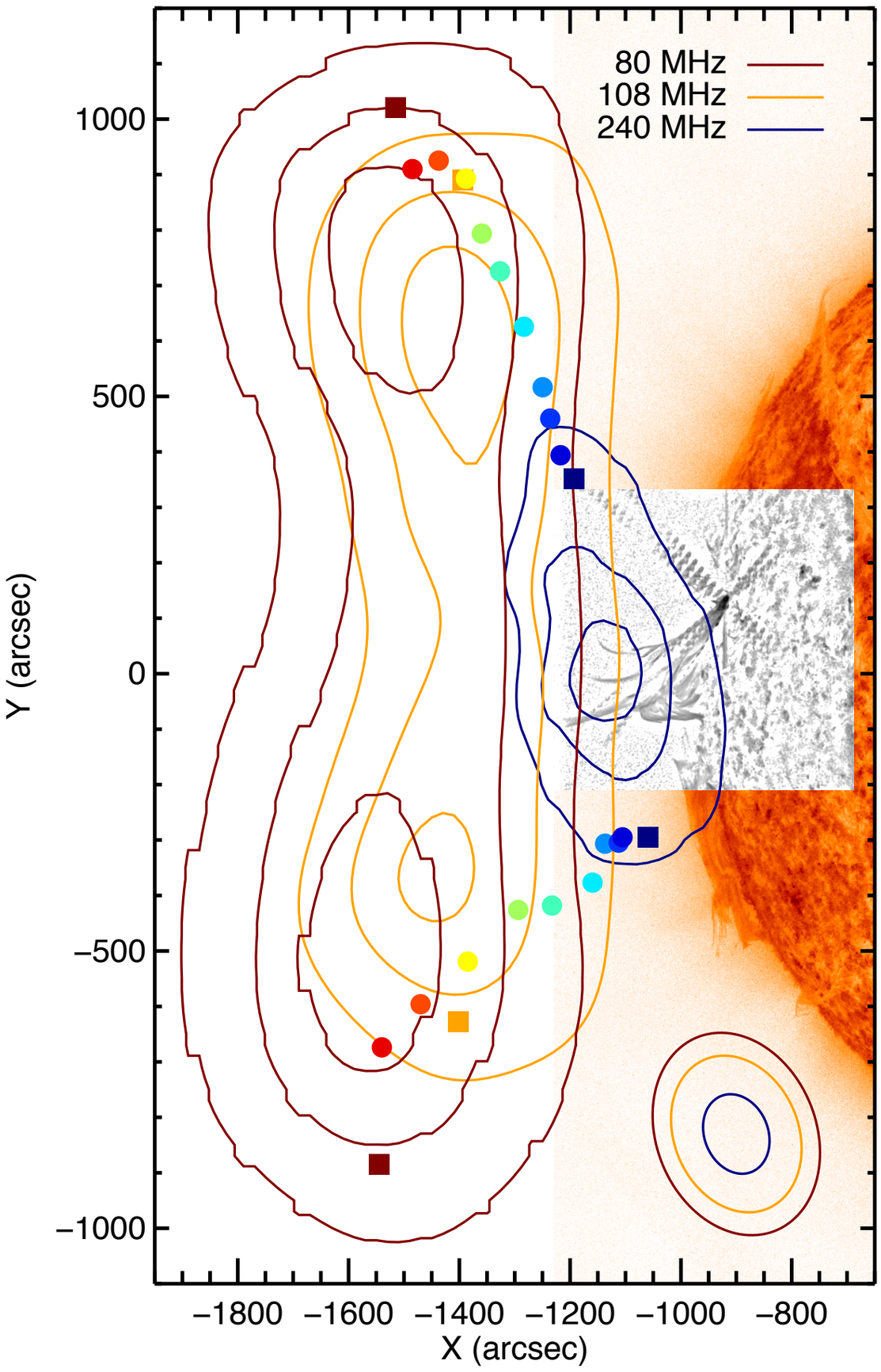

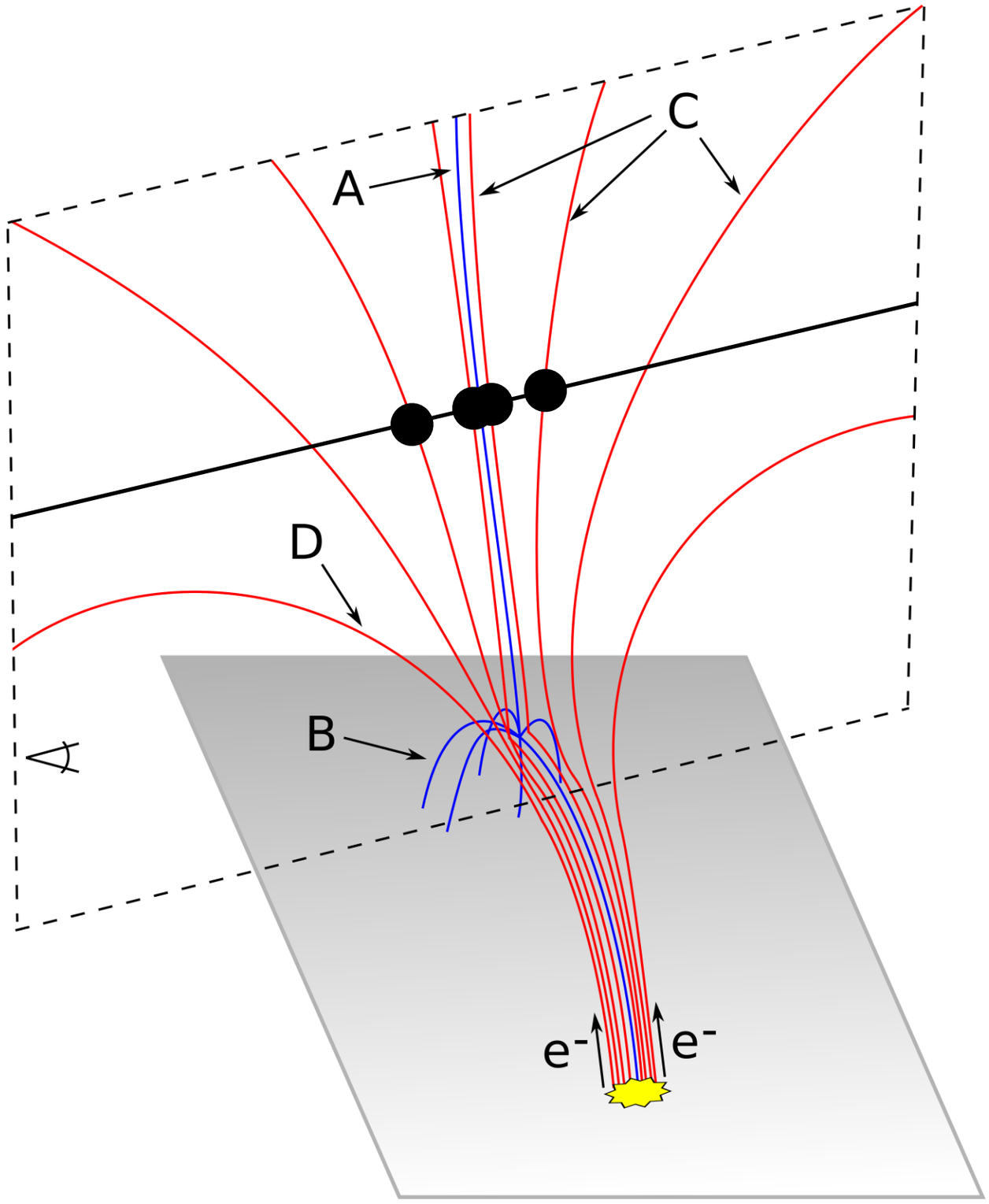

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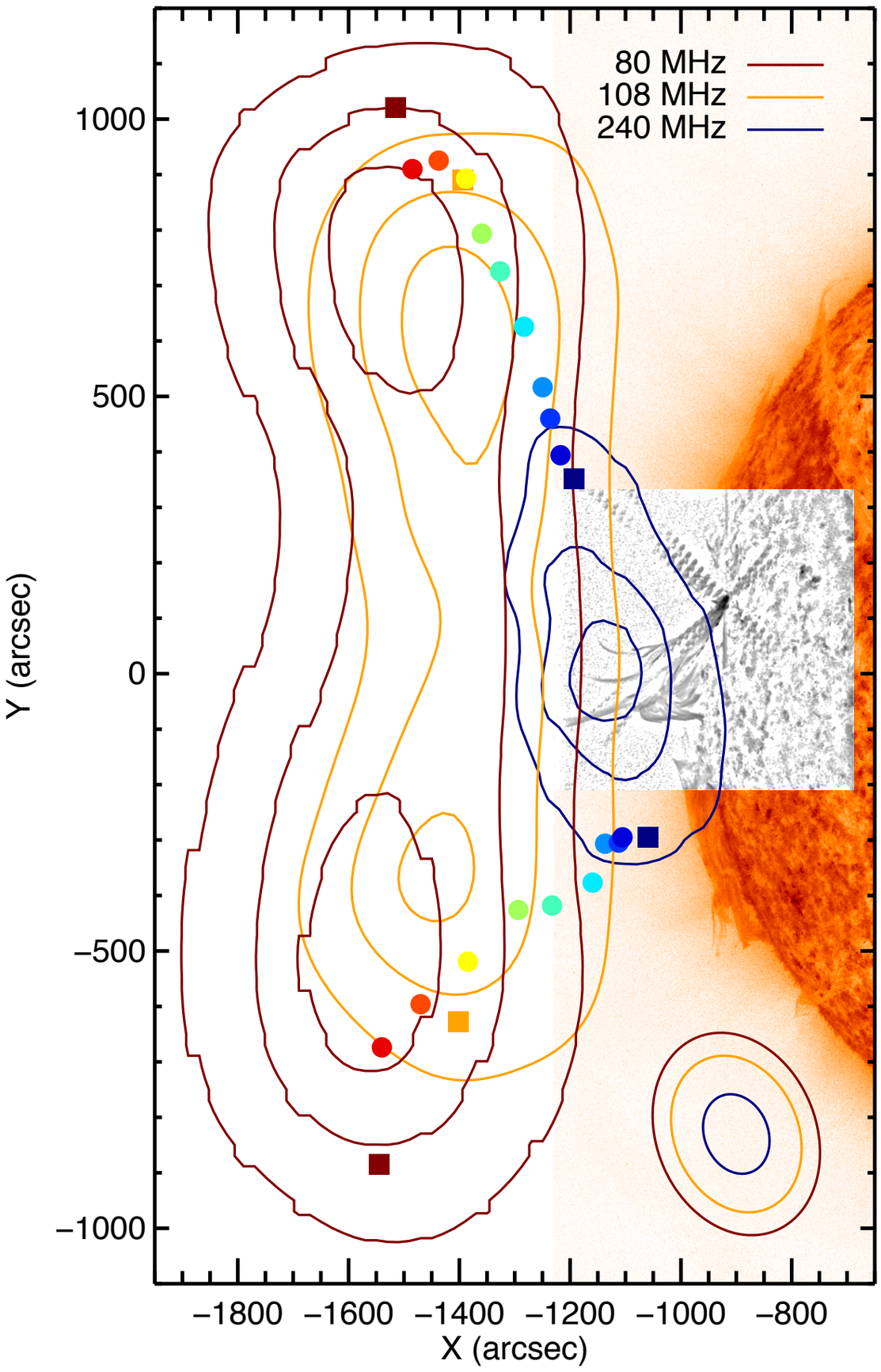

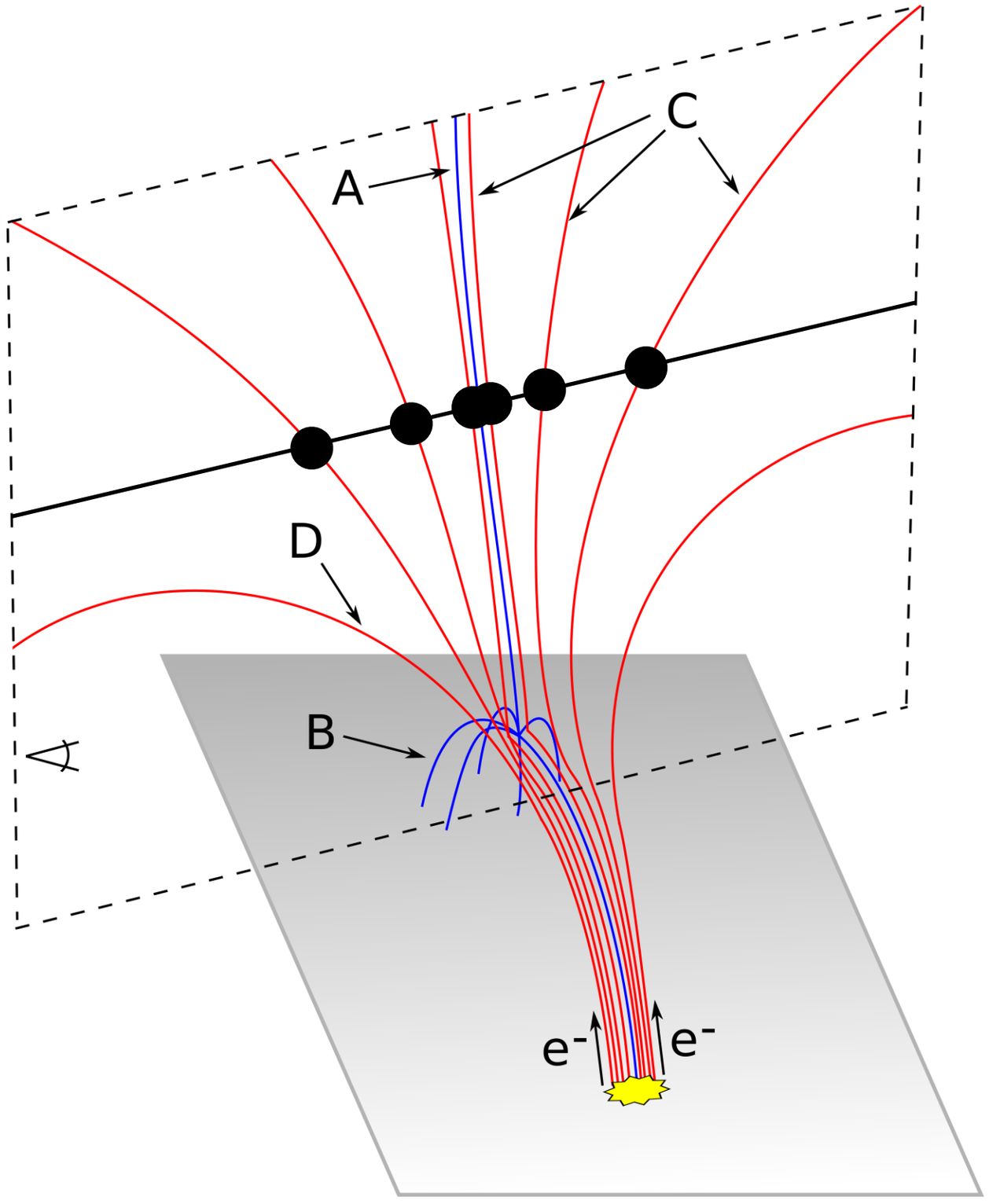

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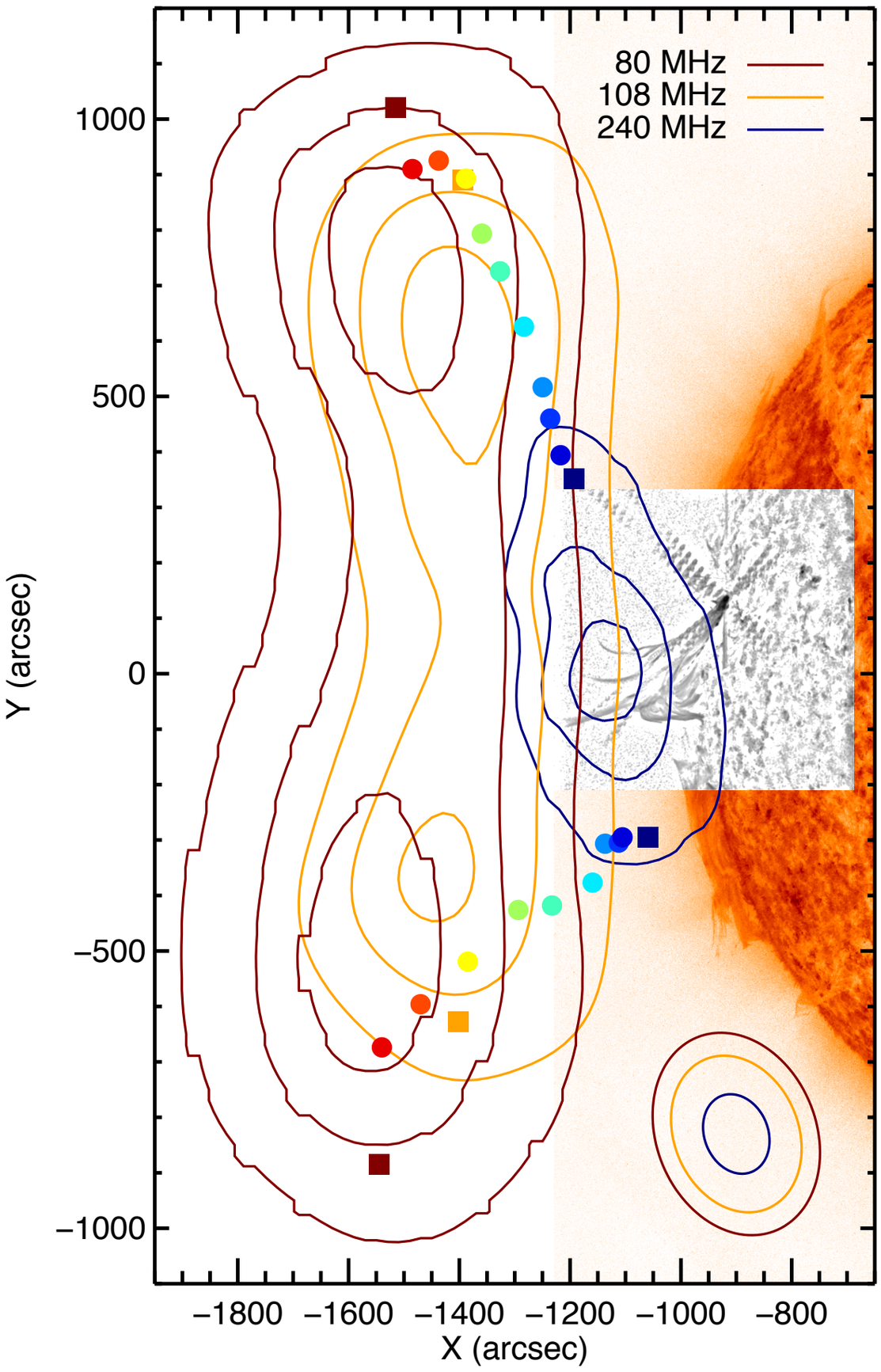
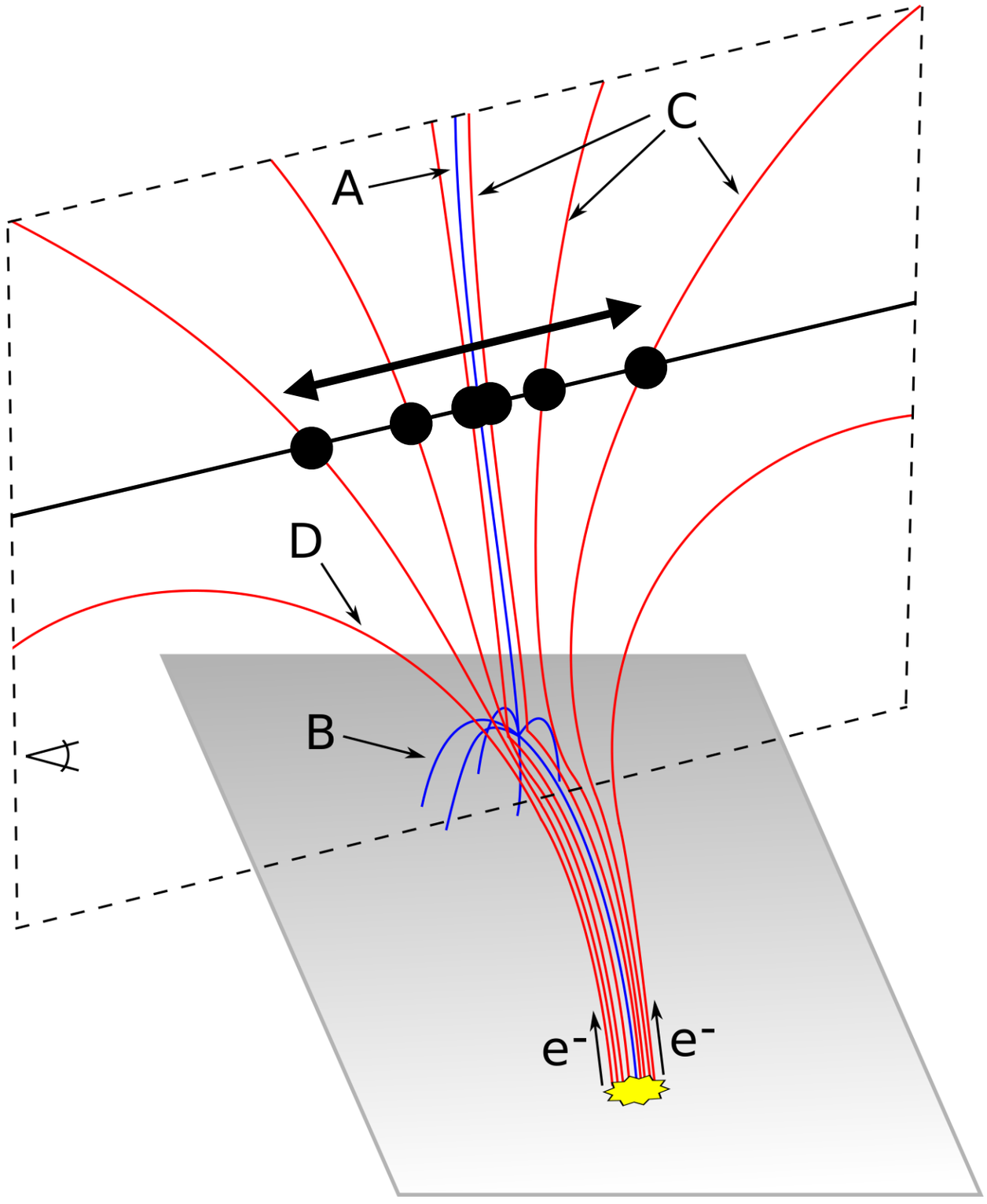
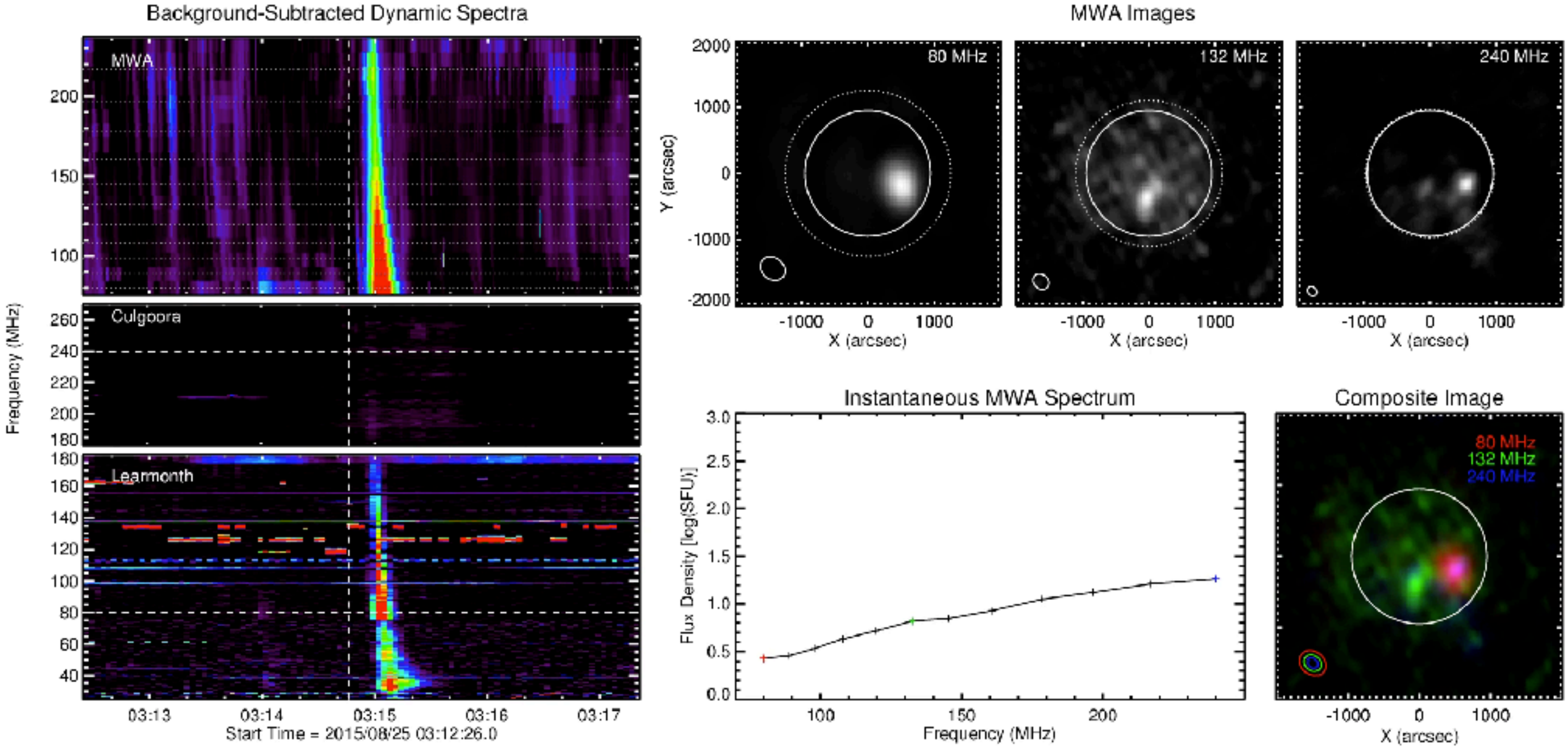




Some Interesting Events…



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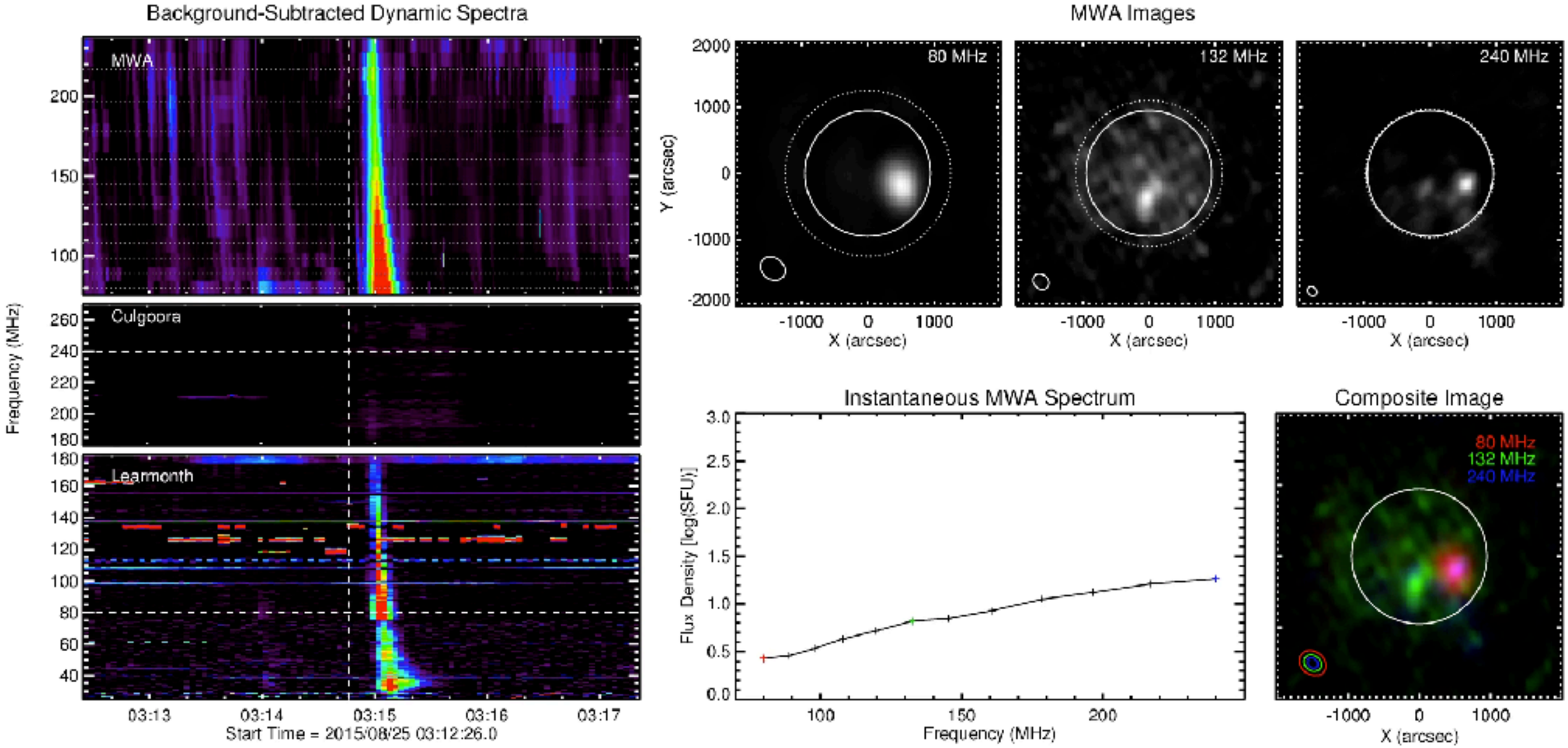

Some Interesting Events…

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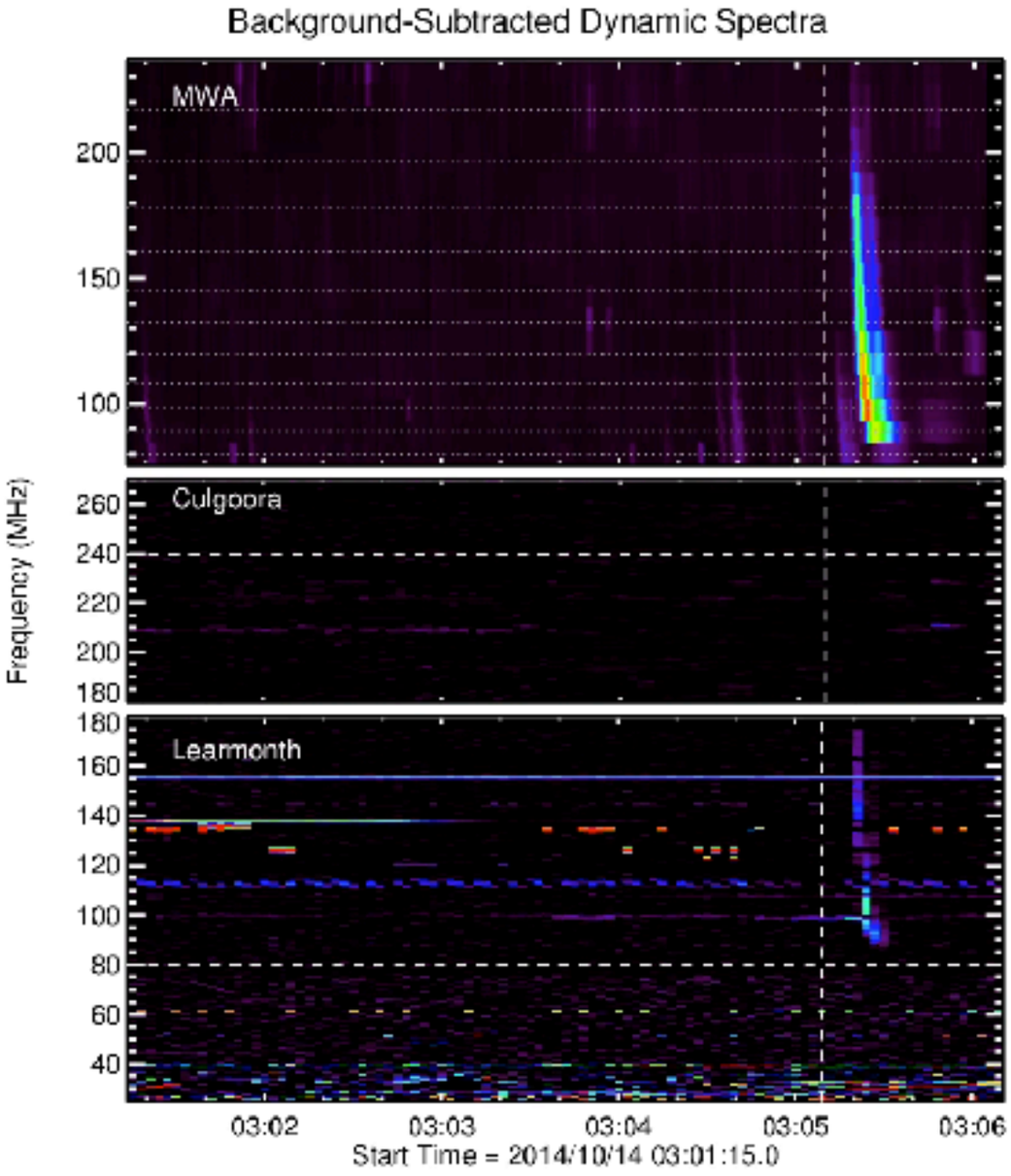

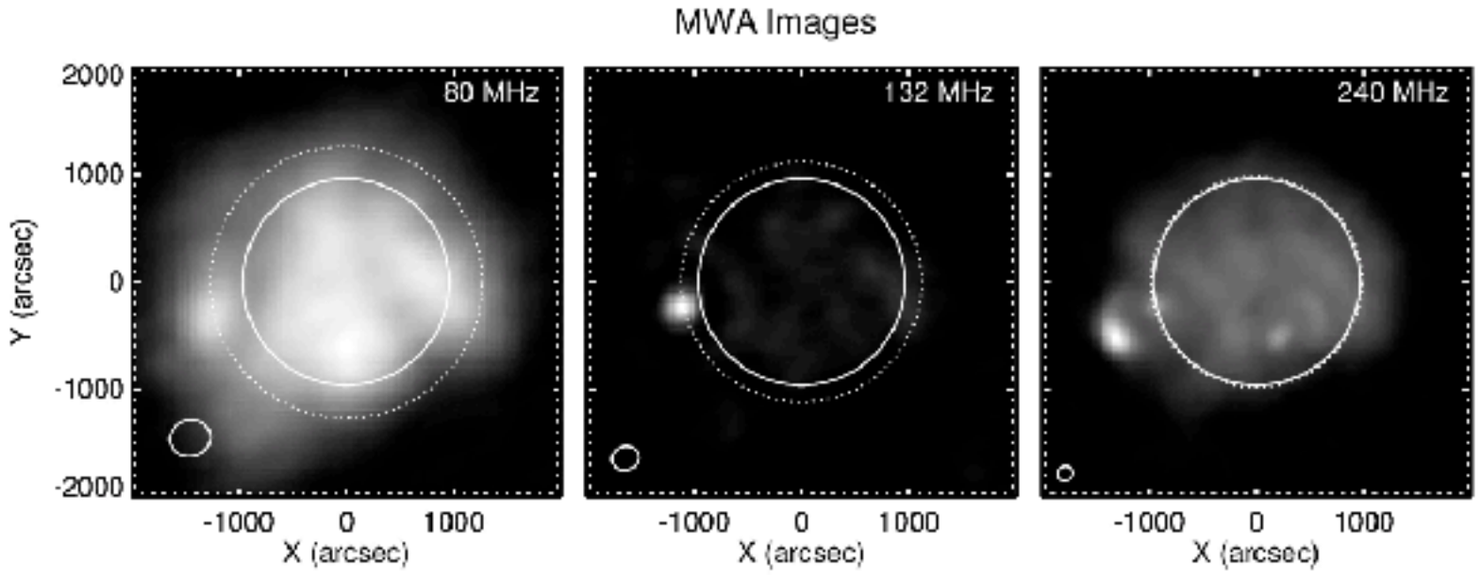

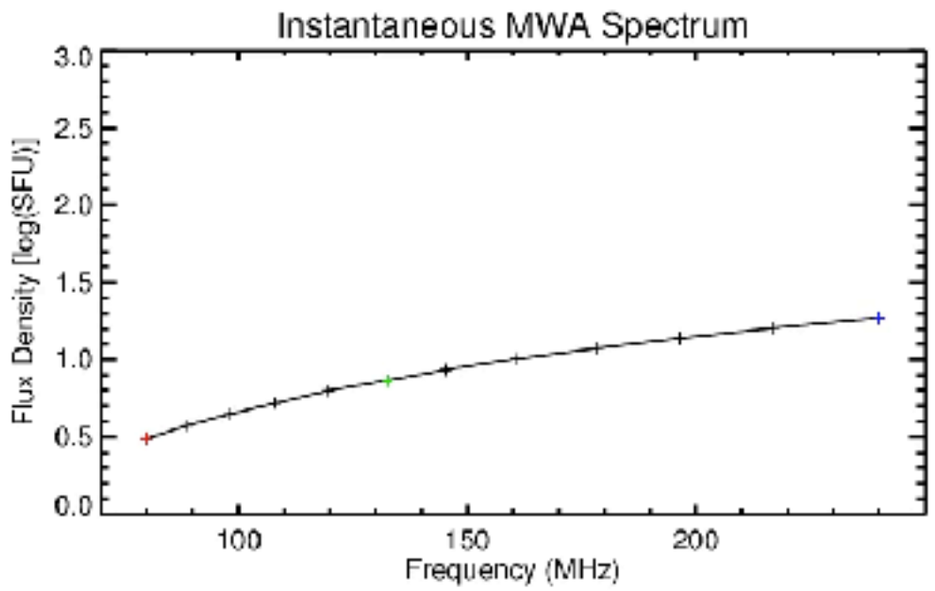

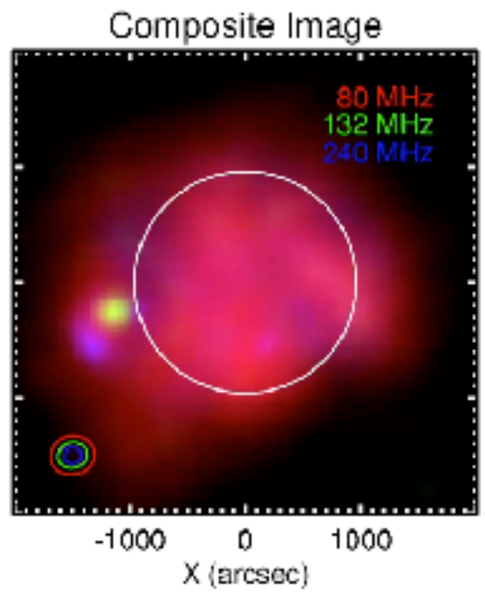

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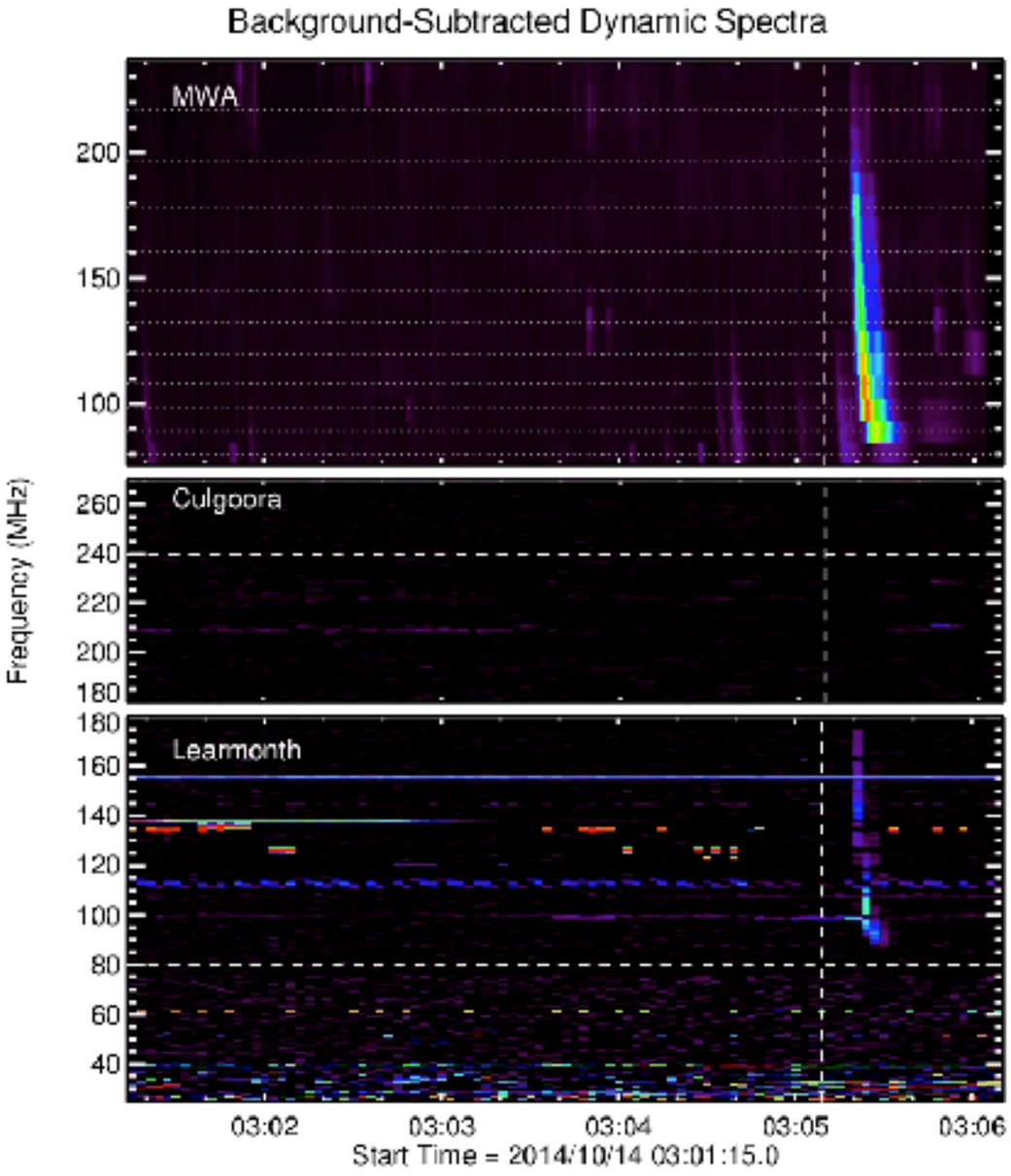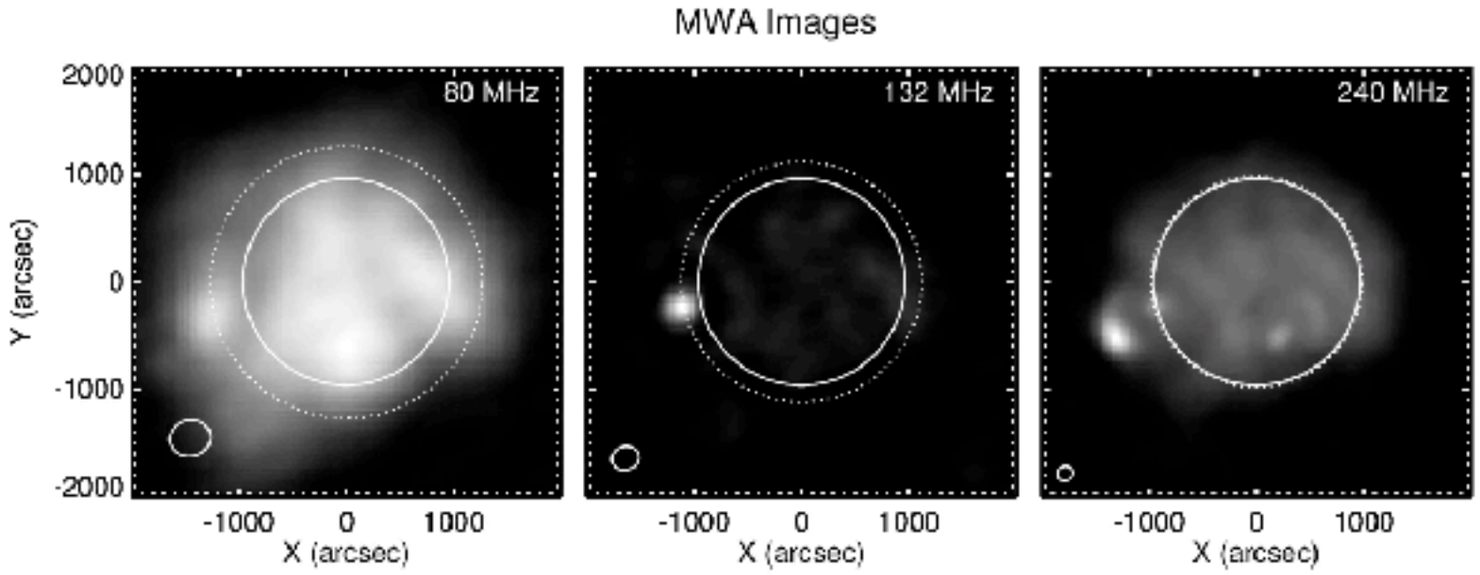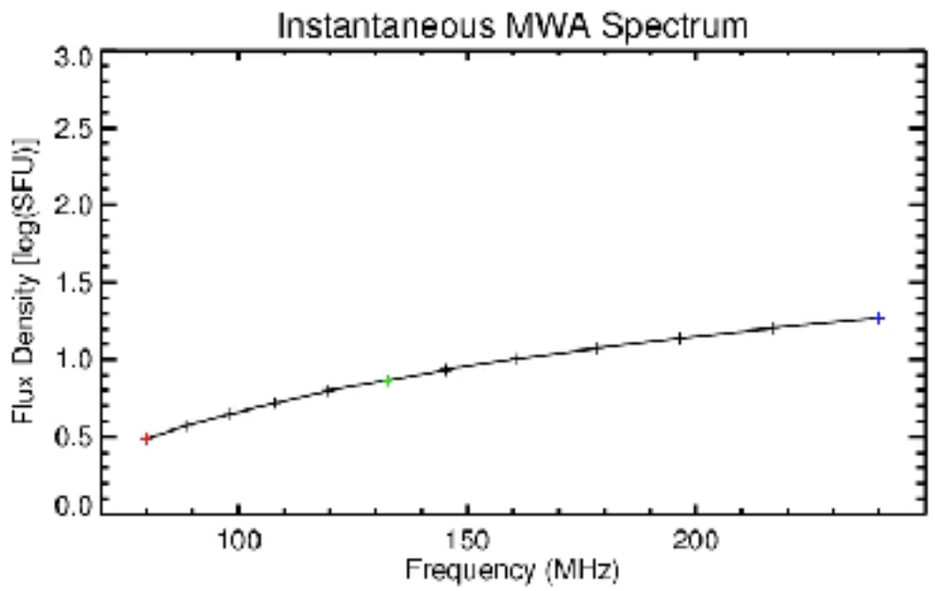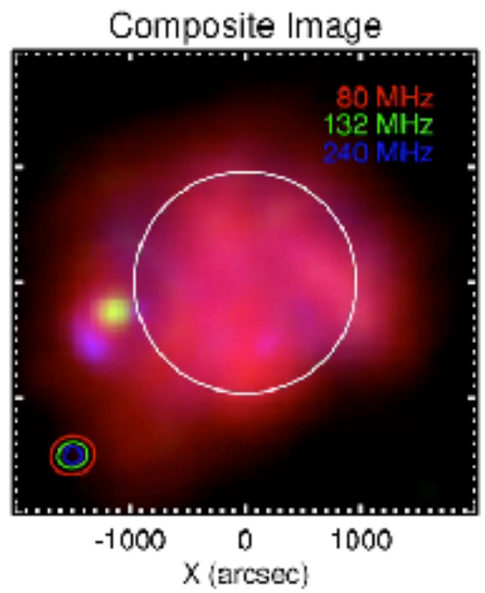
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