

evidence of George Hobbs influencing your title

# Some musings around the first detections of radio emission from extrasolar planets and tracing the space weather of our neighbour stars

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# Exoplanet / Exomoon Radio Emission

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- Magnetised atmospheres can produce bright radio aurorae
- Earth / Sun and Jupiter / Io interactions
- Coherent electron cyclotron maser emission
  - Coherent electron cyclotron maser emission
  - Direct tracer of magnetic field strength
  - One of the only ways to probe exoplanetary magnetospheres
- Difficult to distinguish from stellar bursts

Image Credit: Danielle Futselaar



# VLBI astrometry to the rescue?

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- Isolate exoplanet emission from host star
- Astrometric perturbations over the orbit
- Trace bulk plasma motion from CMEs
- Challenges?
  - Extremely time variable emission
  - Interactions are stronger at low orbital separation
  - Emission frequency scales with magnetic field. Large bandwidths / multiple bands required

