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## Noise sensitivity of a VHF broadband interferometer

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### Abstract content <br> &nbsp; (Max 300 words)

A VHF interferometer can be used to measure the three-dimensional source of radiation emitted by lightning discharges. This is achieved by analysing the phase delay between the signals recorded at each of the three antennas.

Using a numerical model of an interferometer coded in R we simulated a simple interferometer, including the source, antennas and a data processing unit. First, a monochromatic and isotropic point source was simulated in order to validate the structure of the model. The model was then expanded to include multiple monochromatic signals and finally a truly broadband signal.

Using the model we were able to simulate the effects of noise on the resolving power of the interferometer and determine under what conditions the observations become unreliable

### Apply to be<br> considered for a student <br> &nbsp; award (Yes / No)?

Yes

### Level for award<br>&nbsp;(Hons, MSc, <br> &nbsp; PhD)?

MSc

### Main supervisor (name and email)<br>and his / her institution

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### Would you like to <br> submit a short paper <br> for the Conference <br> Proceedings (Yes / No)?

No

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