

## Drones for antenna pattern measurements

This project will investigate the use of drones for measuring antenna patterns, in particular those of the Square Kilometre Array radio telescope “station” (an array of 256 dual-polarised log-periodic antennas, laid out in a semi-random fashion on an approximately 40m diameter ground plane). This project will in particular focus on using near-field to far-field (NF-FF) transformation methods over the operating band (50-350 MHz), as it is difficult to fly high enough to be fully in the far-field. The project has quite a wide scope, and grows on a current project which is building a drone. The student undertaking it could focus on theoretical aspects of NF-FF transformation, or on practical aspects of instrumenting the drone, or a combination of these.

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**Research Field**

Engineering

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**Project Suitability**

M Phil

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**Project Supervisor**

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**Co-Supervisor**

TBC

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*Figure 1: A UAV team working on the MRO site. Credits INAF & ICRAR.*