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# 国台学术报告 NAOC COLLOQUIUM

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**Time: Thursday 2:30PM, Aug. 21 Location: A135 NAOC**

## Electromagnetic Compatibility and the SKA: Keeping Our Site (EM) Pristine



### Howard C. Reader (University of Stellenbosch)

Dr. Howard C. Reader holds the Chair of High Frequency Electronics in the Department of EEEng, University of Stellenbosch, South Africa. He received the received a Ph.D. in Time Domain Electromagnetics from St. John's College, Cambridge, U.K., in 1985. From 1986 to 1994, he was a Lecturer, a Senior Lecturer, and an Associate Professor at the University of Natal, South Africa. In 1994, he was appointed to his present position. His research interests include electromagnetic compatibility, HF metrology and microwave dielectric heating. Current academic and professional work is directed towards the EMI characterization and management of South Africa's SKA activities. Howard has published widely in his research fields and co-authored an Artech House book on Microwave Heating Cavities. He is senior member of the IEEE and has recently co-founded the new South African IEEE EMC Chapter, he is a member of the Institution of Engineering and Technology, a Chartered Engineer (U.K.), and serves as South Africa's Union Radio-Scientifique Internationale Commission E (EMI) chair.

### Abstract

The Square Kilometre Array (SKA) will be the most sensitive radio telescope ever built [1]. This paper describes elements of electromagnetic compatibility (EMC) that have been considered in the development of South Africa's SKA site in the northwest of the country. Possible self-generated radio frequency interference (RFI) has to be addressed vigorously at every stage of the project. Specific



EMC measures taken relate to the: power provision; site infrastructure, including shielding properties of the processor buildings; telescope interfaces and grounding; pre-build testing of the aforementioned.

*All are welcome! Tea, coffee, biscuits will be served at 2:15 P.M.*