

# Annual Report 2006

## Commission B (Fields and Waves)

Alan Robert Clark

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### 1 Active S.A. Researchers and Research Groups

Research that falls under the Commission B ambit is mainly performed at the major universities, and in associated research companies.

#### 1.1 University of Pretoria

The University of Pretoria has an extremely active (and large) research group, and this year has provided 4 journal publications, with a further 4 accepted for publication later.

Much work is done on microwave antenna design and computational electromagnetics.

Main contact details are Prof. Johan Joubert ([jjoubert@postino.up.ac.za](mailto:jjoubert@postino.up.ac.za)), Prof Wimpie Odenaal ([wodendaa@postino.up.ac.za](mailto:wodendaa@postino.up.ac.za)), Prof JAG Malherbe.

#### 1.2 University of Stellenbosch

Stellenbosch also has an extremely active group, and this year has excelled itself with 11 journal publications and 14 conference proceedings.

Main contact details are Prof J Cloete ([jhcloete@sun.ac.za](mailto:jhcloete@sun.ac.za)), Prof David Davidson ([davidson@sun.ac.za](mailto:davidson@sun.ac.za)), Prof Howard Reader ([hcreader@sun.ac.za](mailto:hcreader@sun.ac.za)), Prof. Keith Palmer ([palmer@sun.ac.za](mailto:palmer@sun.ac.za)), Prof Petrie Meyer ([pmeyer@sun.ac.za](mailto:pmeyer@sun.ac.za)).

#### 1.3 University of the Witwatersrand, Johannesburg

The Computational Electromagnetics Research Group within the School of Electrical and Information Engineering consists of Prof A.R.Clark ([a.clark@ee.wits.ac.za](mailto:a.clark@ee.wits.ac.za)), and is mainly concerned with the improvement of the theory behind the simulation package SUPERNEC.

At present, I have work based on printed antennas, a hybrid FEM/MoM implementation for dielectric patch antennas, and a microwave holography map of the HartRAO Radio Telescope.

One of my new MSc's has attended a Satellite Course at Stellenbosh University under the Sumbandilasat bursary scheme.

3 MSc's were produced in 2006.

Annual Reports of the group are compiled in September and are all to be found on the site [www.ee.wits.ac.za/~em](http://www.ee.wits.ac.za/~em), or [ytdp.ee.wits.ac.za/AnnualReport2006.html](http://ytdp.ee.wits.ac.za/AnnualReport2006.html).

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- [6] K D Palmer and H C Reader. Electromagnetics in South Africa: Perspectives and recent achievements. In *Invited Semi-Plenary Paper, Session 2IN1, EuCAP 2006, Nice, paper no. 430866, CD ISBN Number: 92-9092-9375*, November 2006.
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