

Annual Report 2007

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 5 journal publications, and 2 conference proceedings.

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

Main contact details are Prof. Johan Joubert (jjoubert@postino.up.ac.za), Prof Wimpie Odenaal (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 12 journal publications and 30 international and local conference proceedings.

There were several M.Sc.'s and two Ph.D.'s produced. Prof Davidson has been given a grant to use the High Performance Computing Center for CEM work, and most of the Stellenbosch team are involved with the SKA initiative.

Main contact details are Prof J Cloete(jhcloete@sun.ac.za), Prof David Davidson(davidson@sun.ac.za), Prof Howard Reader(hcreader@sun.ac.za), Prof. Keith Palmer(palmer@sun.ac.za), Prof Petrie Meyer (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 (AlanRobertClark@gmail.com), 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. Additionally, we now have work on parallelising both FEKO and SuperNEC on a Beowulf cluster.

No MSc's were produced in 2007, but three are about to graduate.

Annual Reports of the group are compiled in September and are all to be found on the site www.ee.wits.ac.za/~em, or ytdp.ee.wits.ac.za/AnnualReport2007.html.

South African Publications in the field of Commission B— 2007

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