Hugo Day

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Proficiencies: Problem solving, experimental work/design, data analysis, RF engineering, complex systems, numerical methods, technical design and presentation

Education

University of Manchester, Manchester, United Kingdom

Doctor of Philosophy **September 2009 – present**

- Thesis title: "Measurements and Simulations of Impedance Reduction Techniques in Particle Accelerators" - Work done under placement at CERN (February 2010 – February 2013) through the CERN Doctoral Program
- Expected defence date: March 2013
- Supervisors: Professor Roger Jones and Dr Elias Metral (CERN)
- I used theoretical models, commercial EM modelling software (CST Microwave Studio and Ansoft HFSS) and bench top RF measurements to evaluate and characterise the EM properties of accelerator components, predominantly fast transmission line kickers, in the auspices of beam coupling impedance and heating due to high current beam interactions. Working in an internationally diverse team, results were regularly presented internally for review and feedback, with communication between operational and design teams to integrate the RF results into their design revisions. Durng the course of this thesis a new RF measuring technique for evaluating asymmetric structures was proposed and verified with simulations and measurements, and the power loss in ferrite damped cavities in the case of weak to moderate damping investigated in detail.

University of Southampton, Southampton, United Kingdom *MPhys (Hons) Physics Classification: 1st Class* **October 2005 – July 2009**

- Masters' Thesis: "Controlling the synthesis of branched gold nanoparticles using a wet chemical synthesis method" under the supervision of Dr. Antonios Kanaras
- Supervisor: Dr Malcolm Coe

Professional Experience

CERN, Geneve, United Kingdom

CERN Tour Guide/Conferencier **November 2010 – Present**

Giving introductory presentations and tours of experimental facilities at CERN to visitors, both public and private of all ages and knowledge.

University of Manchester, Manchester, United Kingdom

Teaching Assistant **September 2010 – January 2011**

Teaching assistant for undergraduate courses (Programming in C).

CERN, Geneve, United Kingdom

CERN Summer Student **June 2008 – September 2008**

Simulations of the H^- and electrons through the spectrometer in the 3MeV test stand for LINAC4. The magnetic field of the spectrometer was first realised, and then the trajectory of the particles simulated using the tracking code PATH.

Languages: English (Fluent), French (Intermediate), German (Beginner)

Programming: C, C++, Matlab, Mathematica, Python, Java, LaTeX 2_ε, R, *nix and Windows administration

Peer-Reviewed Publications

Day, H.A., Bartczak, D., Fairbairn, N., McGuire, E., Ardakan, M., Porter, A. E. and Kanaras, A.G., "Controlling the three-dimensional morphology of nanocrystals", *CrystEngComm*, 2010, 12, 4312-4316.

Referees

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