

Research with VUV and SASE FEL's within the 4GLS Project.

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There is considerable momentum behind a proposal to establish a Centre for Accelerator Science, Imaging and Medicine (CASIM) at the Daresbury laboratory in the UK. An important component of the CASIM proposal is a project to build fourth generation light sources (4GLS). The 4GLS project is based on a 600 MeV Energy Recovery Linac (ERL) optimised to deliver high brightness radiation in the range 4 to 100 eV. The ERL also drives three free electron Lasers (FEL); an IR-FEL tunable over 3 to 50 μm , a cavity based VUV-FEL tunable over 3 to 10 eV and a SASE FEL tunable over 10 eV to 100 eV.

This talk will give a brief overview of the 4GLS project together with an account of the exciting new science that will be made possible by the VUV and SASE FEL's.