

JOB DESCRIPTION

POST TITLE	Senior Insertion Device Physicist		
DIVISION/DEPARTMENT	Technical Division		
REPORTS TO	Head of Insertion Device Group	GRADE	4

AIM

Responsible for physics issues related to the provision of high quality insertion devices for Diamond, including functional specification, calculation of radiation properties, magnetic design, magnetic measurement and analysis, commissioning and operation.

ACCOUNTABILITIES (the key duties of the post)

The key duties of the post are as follows:

- Provide primary point of reference for beamline scientists responsible for new beamlines with regard to establishing insertion device parameters and the relative importance of various parameters with respect to the science case and photon beam characteristics.
- Establish magnetic performance criteria for DLS insertion devices, including detailed magnet array specifications. Consider impact of concessions in magnetic specification/tender process.
- Analyze magnet characteristics, define or supervise the definition of magnet array build lists. Perform or supervise measurement, shimming and analysis accordingly.
- Develop Diamond's capabilities in measuring and analysing magnetic fields from permanent and electromagnets.
- Contribute to the mechanical design of insertion devices including the mechanical installation in the storage ring. Assist with the control system specification. Consider wider issues regarding storage ring integration.
- Provide assistance with the commissioning of insertion devices in the storage ring, analysis of the impact of insertion devices on the storage ring, and development of correction strategies.
- Provide liaison, support and analysis to existing beamlines with regard to insertion device performance, photon beam characteristics, and related issues.
- Provide training to other group members related to insertion device simulations, design, measurement and analysis.
- Oversee technical tasks performed by other group members as assigned.
- Contribute to the design and construction of any other accelerator magnetic systems as required.
- Attend and contribute to machine development, insertion device, and beamline design meetings.
- Contribute to the planning of the insertion devices group design and build activities.
- Comply with the Diamond Health & Safety procedures and policies and where appropriate assist in the development of local procedures.

Because of the changing nature of our business your job description will inevitably change. You will, from time to time, be required to undertake other activities of a similar nature that fall within your capabilities as directed by management.