

An Update of The Diagnostic Systems Proposed for The New Third Generation UK Light Source, DIAMOND

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Abstract

This paper describes the currently proposed systems for electron beam position monitoring (EBPM) and diagnostics for the DIAMOND synchrotron. Although the basic requirements have remained unaltered, the philosophy of implementation has been subject to change, influenced by the experiences of other national light sources, and the emerging availability of commercial equipment, suited to the needs of DIAMOND. This paper focuses in greatest detail on the storage ring systems, including data acquisition and control. Details of Total Current Monitor (TCM) systems, and an active, beam position based interlock system for protecting ID vessels against thermal damage, by beam mis-steer, are also included.