

Feasibility of the EDICAM camera for runaway electron detection in JT-60SA disruptions

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Runaway electron prevention and mitigation is essential in future large-scale devices, hence correct understanding, modeling, and experimental observation of runaways is most important. We present a modelling of a JT-60SA-like disruption with the DREAM disruption simulating code, which is used to estimate the radiation expected from the generated runaway electron population. The runaway electron distribution function is used by the SOFT code to estimate the resulting synchrotron radiation. The parameters of the EDICAM visible camera system, recently installed to JT-60SA, is used to assess the feasibility of this visible camera system for runaway electron detection. We find that the runaway electron beam formed in the disruptions can produce synchrotron radiation observable by the EDICAM system.