

Abstract Submitted
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Spectrally resolved measurements of runaway electrons during plasma disruptions in the TEXTOR tokamak¹ TIMUR KUDYAKOV, OSWALD WILLI, HHU, KARL HEINZ FINKEN, SADRILLA ABDULLAEV, MICHAEL LEHNEN, FZJ, SERGEY BOZHENKOV, MARCIN JAKUBOWSKI, MPI, YUHONG XU, LPP — A new diagnostic, a probe, has been developed to provide the absolute number of runaways and their spectrum at the plasma edge. Additionally, measurements of the thermal load from incident runaway electrons in the material were performed by two thermocouples installed in the probe. The probe consists of 9 YSO ($\text{Y}_2\text{SiO}_5 : \text{Ce}$) crystals. Different thicknesses of stainless steel filters allow to measure the spectrum of runaways with energies between 4 and 30 MeV. Disruptions were provoked by massive gas injection (Ar, Kr, Xe) in to stable TEXTOR discharges. In the thermal quench the loss of runaways produced at the start up of the discharge was detected by the probe. During the current quench a current plateau of runaway electrons is formed. It was found that during the current quench runaway electrons are coming from the plasma as a set of bursts. Such parameters of runaways as their absolute number, the spectrum and the corresponding thermal load in the tungsten plate were measured during thermal and current quenches.

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Oswald Willi
ILPP, Heinrich-Heine-Universität Düsseldorf,
40225 Düsseldorf, Germany

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