IPP INSTITUTE OF PLASMA PHYSICS OF THE CZECH ACADEMY OF SCIENCES

RE Characterization by Tomographic Inversion

J. Svoboda, J. Cavalier, IPP CAS RE team

List of affiliations: Institute of Plasma Physics of the Czech Academy of Sciences



Introduction

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runaway electrons expected in JT60-SA

CE COMPASS

edicam prepared, tomography installed

proposed to make a feasibility study of RE beam tomographic inversion



Helical filament during the runaway electron beam phase in COMPASS tokamak recorded by RIS fast visible camera

Previous Experience

Runaway electron beam position estimation at COMPASS

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based on seeded Ar radiation Beam movement and size retrieved





Potential problems - image

Experimental data - RIS 2

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Experimental data - RIS 1



-Camera aperture

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-Gas puff influence

-Dust flying around



Problems to address

Based on discussions so far:

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Camera view orientation co current or counter current?

What is expected radiation spectrum?

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Relativistic energies - synchrotron radiation (anisotropic) correction?

Line radiation influence?



RE beam emission recorded by IR camera at JET [C. Reux et al., PRL 126, 175001]