

Invitation to the Oral Examination – Department CS

For the occasion of his examination for a Doctoral Degree,

Christoph Pitzal

will present his dissertation entitled

Low-collisionality extension of fluid models for plasma edge simulations

on **19.11.2024 at 13:00 (CET)**

Attendance to the presentation is open to the public. The presentation will be in English.

The candidate, all members of the Examination Committee, and authorized examiners of the TUM School of CIT are invited to the presentation and subsequent oral examination.

The presentation and subsequent examination will take place in person
at the **Max Planck Institute for Plasma Physics,**
Boltzmannstr. 2, 85748 Garching, in the L5 Seminar Room
(room 315, building L5, 2nd floor).

Online participation is possible with the following zoom link

<https://eu02web.zoom-x.de/j/65318804953?pwd=1bQlOxmaPXIZ6Yg8JPVDOiT8eoSbm0.1>

(Meeting ID: 653 1880 4953, Passcode: 647295)

Examination committee:

Chair: **Prof. Dr. Eric Sonnendrücker**

First Examiner: **Hon.-Prof. Dr. Frank Jenko**

Second Examiner: **Prof. Dr. Ulrich Stroth**

Third Examiner: **Prof. Dr. Hans-Joachim Bungartz**

Garching, October, 22 2024

Mailing list:

Members of the examination committee

Doctoral candidate

CIT staff

Abstract:

The fluid code GRILLIX, which was specifically designed for the description of plasma turbulence in the edge region of fusion devices, was extended in this work. The underlying fluid model was closed by a 'Landau fluid closure', which remains valid for lower collisionalities. This step is necessary to apply GRILLIX to reactor-relevant conditions and operational scenarios. In this work, the extended model is applied to the 'I-mode', a reactor relevant operation scenario characterised by low collisionality.