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統合輸送解析スイートTASK3D-aのさらなる機能拡張とLHD実験への適用 Further Extensions of Development of Integrated Transport Analysis Suite, TASK3D-a, and Applications to LHD Experiment

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The integrated transport analysis suite, TASK3D-a (its first version: a01, upper part of Fig. 1 in which calculation flow is shown), has been developed and applied mainly to NBI-heated LHD plasmas [1]. Recently, further extension has been made such as including ECH ray-tracing codes (TRAVIS [2] and LHDGauss [3]) and the module for creating ascii files to be registered onto the International Stellarator-Heliotron Confinement Database [4,5]. Inclusion of ECH ray-tracing code can significantly enhance systematic energy transport analysis of ECH- (and NBI-) heated LHD plasmas, for which previously stand-alone ECH absorption calculations has been performed such as reported in Ref. [6]. Further extensions for physics analyses such as on the neoclassical plasma flows, Alfvén eigenmodes, energetic

particles, and others, have been progressing [7]. These extensions of developments and applications will be explained in the meeting.

References

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- [6] N.A.Pablant et al., presented in the 20th International Stellarator-Heliotron Workshop, Greifswald, Germany, 2015.
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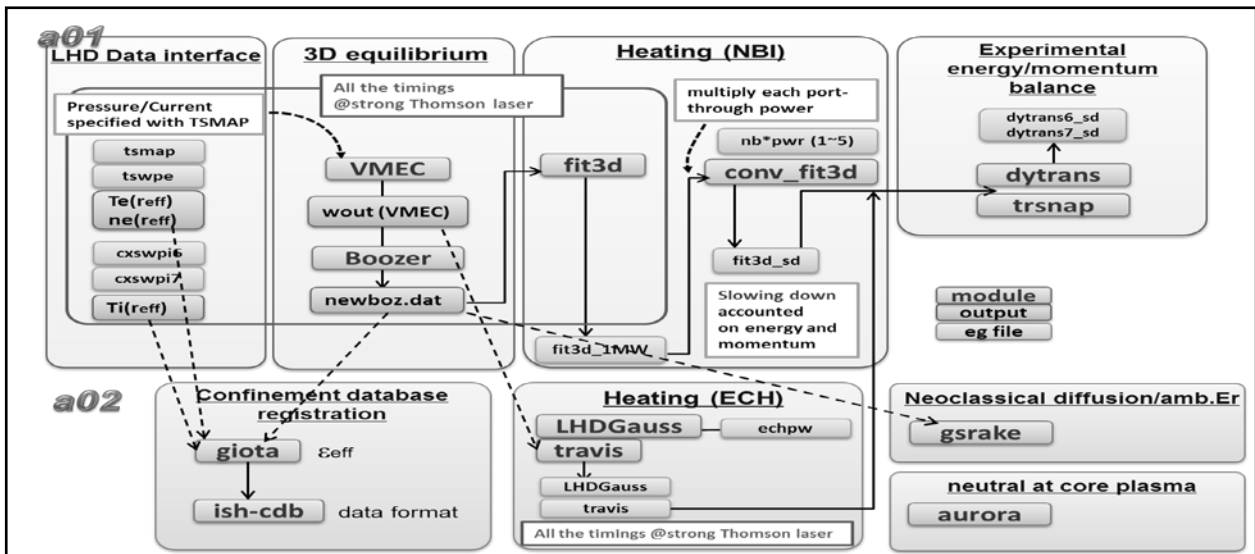


Fig.1: Calculation flows in TASK3D-a01 (upper part) and a02 (being extended).