

Updates on WP 3.6 of ATEP

ATEP meeting

November 22nd, 2023

Alessandro Biancalani

Lecturer and researcher at the Ecole Supérieure d'Ingénieurs Léonard de Vinci
Léonard de Vinci Pôle Universitaire, Research Center, 92916 Paris La Défense, France



Some updates on WP 3.6

- A zonal current diagnostics for PSZS has been implemented by J. N. SAMA (with Thomas and Alberto) during a visit to Garching, in the framework of his PhD project, in the `pszs_num_int_4_current` branch of ORB5 and some conclusive test simulations have been run with maxwellian distribution functions.
- A JET case has been identified as a possible benchmark case. This is the JET #92416 case, with magnetic equilibrium provided by B. McMillan, and experimental profiles provided by R. Dumont. The investigation of Alfvén activity has shown the existence of a TAE, which excites zonal flows (ZF) via forced-driven excitation. The effect of these ZFs on ITGs has also been studied, repeating the study with the EPS-2019 case.
- FALCON was upgraded by L. Lebreton, intern at ESILV (extending A. Brongniart's work), to allow a kinetic upshift of the continuum due to compressibility. Previously, the slow-sound approximation was used.
- The effect of the equilibrium profiles, modified by an Alfvén mode, on ITG, has been studied in the EPS-2019 case and discussed for the NLED-AUG case.
- Chirping of EGAMs is being studied by D. Gossard, with the interns M. Pujol and M. Rampont (ESILV), and with J. Sama, X. Wang, T. Hayward-Schneider, and F. Zonca, using Ivan's MPR diagnostics.