

## Recent simulations of Toroidal Alfvén Eigenmodes on JET with the Gyrokinetic Toroidal Code

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Recent experiments on the Joint European Torus have succeeded in destabilizing weakly-damped Toroidal Alfvén Eigenmodes (TAEs) by Neutral Beam Injection and ICRH-generated energetic ions. Concurrently, TAEs with insufficient drive to overcome several damping mechanisms (including continuum damping, radiative damping, ion and electron Landau damping) have been resonantly probed with external antennas[1]. In both cases, the mode structure and the drive and damping mechanisms have been computed self-consistently by Gyrokinetic Toroidal Code (GTC)[2] and matched to measurements by magnetic probes. Energetic particle drive is compared to a synthetic antenna in linear simulations. This work is in support of efforts to observe alpha particle-driven in future JET DT experiments.

### References

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