

## Current Alfvén eigenmode research on Globus-M2 tokamak

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After modernization of Globus-M tokamak, toroidal magnetic field and plasma current were increased [1], that made it possible to observe some phenomena concerning propagation and excitation of Alfvén waves, that have never been observed on Globus-M earlier.

First, the study of fast particle losses, initiated by toroidicity-induced Alfvén eigenmodes (TAE) was complemented with the dependence of fast ion losses on TAE magnitude for the operation mode with plasma current of 330 kA and toroidal magnetic field of 0.7 T, which indicates the increase in fast particle confinement with the increase of magnetic field and plasma current. The results acquired are in good consistence with previously obtained ones [2].

Second, during the neutral beam injection at the current ramp up stage of the discharge, oscillations with frequency sweeping in the range of 100 – 300 kHz were detected by means of magnetic probes and Doppler backscattering reflectometer. These oscillations were identified as Alfvén cascades (AC) or Reversed shear Alfvén eigenmodes (RSAE). Further research made it possible to apply MHD spectroscopy [3] technique for observed modes to obtain the evolution of minimal value of safety factor  $q_{min}$ .

Another notable phenomenon detected on Globus-M2 is high-frequency (up to 2 MHz) oscillations observed both in Ohmic discharges and discharges with low-hybrid current drive. Highly likely these modes are driven by runaway electron beam [4].

## References

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