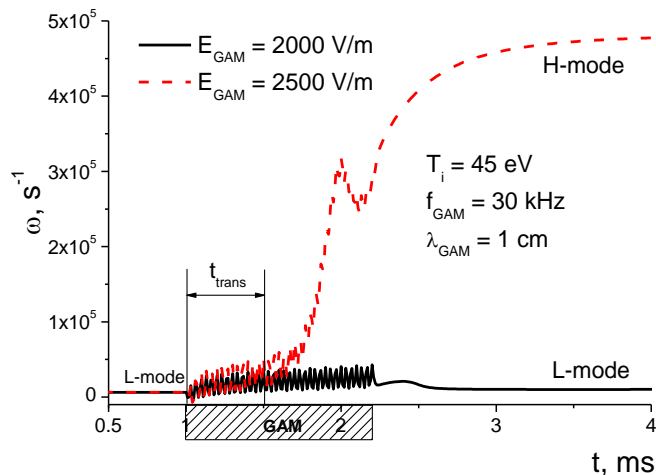
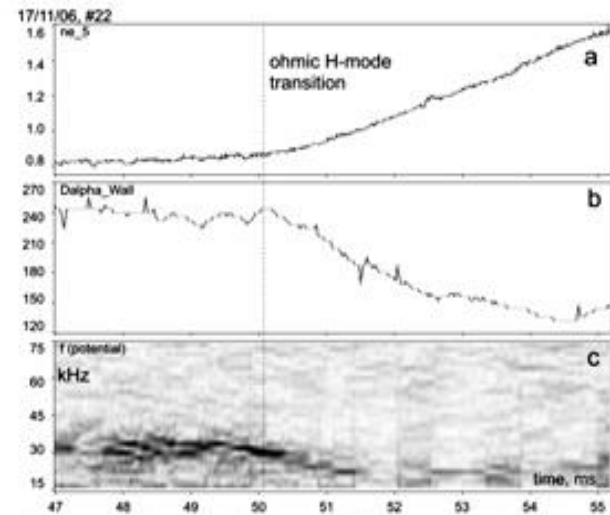


GAM evolution and LH-transition in the TUMAN-3M tokamak

- GAM were experimentally observed by means of HIBP in TUMAN-3M to precede LH-transition, but never found in H-mode
- To understand if GAM can trigger the transition, a simple model of LH-transition caused by GAM-induced radial electric field shear was used
- Modeling shows that if GAM parameters (i.e. amplitude) exceeds some thresholds, the LH-transition is triggered



Peripheral radial electric field shear evolution in the presence of GAM. Transition occurs if amplitude of GAM exceeds threshold value of 2400 V/m



Evolution of plasma density, $D\alpha$ emission and plasma potential during LH-transition. Potential was measured by means of HIBP in central plasma

- Comparison of modeling with experimental data obtained on the TUMAN-3M shows that GAM parameters observed experimentally are within the limits required for the possibility of GAM-induced LH-transition