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Title paper: Study of mode competition processes in a high power multimode gyrotron

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Abstract: In this paper, the modified quasilinear model of an interaction of three modes with neighbouring azimuthal indexes in the gyrotron with Gaussian fixed field profile of the operating mode is presented. Using the developed model, we derive the stability conditions of the single-mode regimes and analyze the domain of stability of the operating mode on the cyclotron frequency mismatch – normalized beam current parameter plane.