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Mode switching in a gyrotron with azimuthally corrugated resonator¹ GREGORY NUSINOVICH, OLEKSANDR SINITSYN, THOMAS ANTONSEN, IREAP, University of Maryland — Operation of a gyrotron having a cylindrical resonator with an azimuthally corrugated wall is analyzed. In such device, wall corrugation cancels degeneracy of modes with azimuthally standing patterns. The coupling between these modes depends on the radius of electron beam. It is shown that such gyrotron can be easily switched from one mode to another. When the switching is done with the repetition frequency equal to the rotational frequency of magnetic islands, this sort of operation can be used for suppression of neoclassical tearing modes in large-scale tokamaks and stellarators.

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Gregory Nusinovich
IREAP, University of Maryland

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