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magnetoelectric switching and spin wave generation BART SOREE, DAVIDE TIERNO, CHRISTOPH ADELMANN, ODYSSEAS ZOGRAFOS, ADRIEN VAYSSET, FLORIN CIUBOTARU, imec, SPIN WAVE IMEC TEAM — We have investigated the dynamics of the magnetization in magnetoelectric elements for switching and generation of spin waves. The behavior of the magnetization in the magnetostrictive material coupled to the piezoelectric not only depends on the strain induced by the piezo, but also depends on the relative contribution of the different magnetic anisotropies (shape, magnetocrystalline, magnetoelastic) present in the magnetoelectric element which is coupled to a spin wave bus. Performing micromagnetic simulations allow us to draw several conclusions w.r.t. the switching behavior of magnetoelectric elements as well as conditions to generate spin waves in an effective manner.

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