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Three dimensional simulations of the anisotropic wet etching of silicon MARIJA RADMILOVIC-RADJENOVIC, BRANISLAV RADJENOVIC, Institute of Physics — In this paper we have shown that profile evolution during anisotropic wet etching of silicon can be described by the non-convex Hamiltonian arising from the Hamilton-Jacobi equation for the level set function. Angular dependence of the etching rate is calculated on the base of the silicon symmetry properties, by means of the interpolation technique using experimentally obtained values of the principal [100], [110], [111] directions in KOH solutions. Some examples illustrating developed methodology are presented. The obtained simulation results indicate that inclusion of additional directions for which the etching rates are known, would lead to the better quantitative agreement with the measured data.

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