Berg's effect

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Berg's effect was experimentally observed in the 30's of twentieth century. It can be stated as follows. If a growth of a single crystal is quasi-steady and the shape of the crystal itself is not too far from equilibrium, then the supersaturation (i.e. the amount of matter) is a growing function of the distant from the center of the facet. This is easily expressed in terms of properties of solutions, u, to the Laplace equation (i.e. harmonic functions) in regions with re-entrant corners. The point is show that there is no singular part of u. We report recent results of this deceptively simple looking problem.