

## Arrhenius and Non-Arrhenius Behaviour During Anisotropic Etching

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We present evidence from both simplified and realistic models of anisotropic wet chemical etching that the macroscopic etch rate can deviate from the linear Arrhenius temperature dependence. The results are rationalized by using the recently established formulation of the apparent macroscopic activation energy as an average over the microscopic activation energies, including a correction term. The study shows that care should be taken and crosschecking should be practiced when assigning the macroscopic activation energy to one (or more) atomistic process(es). In particular, we show that the fractions of removed particles should be used to decide the nature of the dominating process, not the surface fractions. We conclude that non-Arrhenius behaviour can be expected when the fractions of removed particles change significantly over the considered range of temperatures.

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