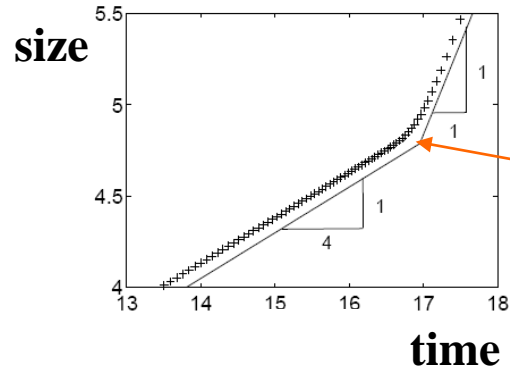
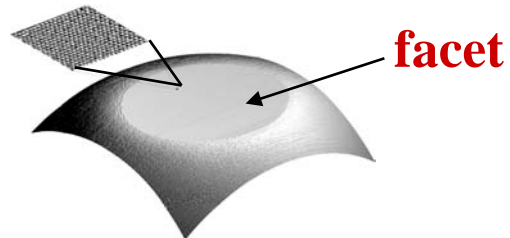


IRG-1 SEED: Theory Highlights: Fundamentals in Appl. Math of Structural Evolution

Dionisios Margetis, Math & IPST

Shock waves (as in gases) describe nanostructure **facet expansion** [1]

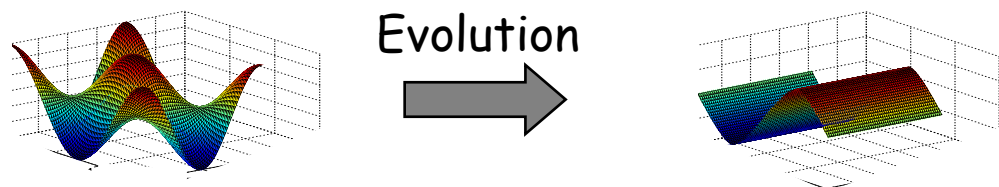


Effect of confinement:
Switch in time behavior
of facet size



- Diffusion of adatoms in **surface reconstruction**: new continuum model that provides effective material parameters as **discrete averages** of microscale details[2]. *Emergence of negative effective kinetic parameter.*

- Electric fields **accelerate 2D→1D** transition of profiles [3]



[1] P.-W. Fok, R.R. Rosales, **D. Margetis**, *Physical Review B* **78**, 235401 (2008)
 [2] **D. Margetis**, submitted
 [3] A. Bonito, R.H. Nochetto, J. Quah, and **D. Margetis**, submitted.