Seminar/Talk

Quantitative homogenization of nonlinearly elastic periodic composites

Stefan Neukamm

TU Dresden

Host: Julian Fischer

One of the main problems in homogenization of nonlinearly elastic composites is that long wavelength buckling prevents the possibility of homogenization by averaging over a single period cell. A careful convexification argument (that invokes a perturbation of the stored energy function by a Null Lagrangian) combined with regularity theory for monotone systems shows that long wavelength buckling cannot occur for small loads. Based on this observation we obtain a quantitative two-scale expansion for energy minimizers and we can discuss the linearization of periodic composites at strained equilibrium states. The talk is based on a joint work with M. Schffner.

Tuesday, March 27, 2018 04:00pm - 06:00pm

Big Seminar room Ground floor / Office Bldg West (I21.EG.101)

www.ista.ac.at | Institute of Science and Technology Austria | Am Campus 1 | 3400 Klosterneuburg