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Local and global minimizers for a capillarity type problem

Tuesday, 13 June 2023 10:30 (1 hour)

I will present a model for vapor-liquid-solid growth of nanowires where liquid drops are described as local or global volume-constrained minimizers of the capillarity energy outside a semi-infinite convex obstacle modeling the nanowire. I will first discuss global existence of minimizers and then, in the case of rotationally symmetric nanowires, I will explain how the presence of a sharp edge affects the shape of local minimizers and the validity of Young's law. Finally, I will present some recent regularity results for local minimizers and the connections of this problem with an isoperimetric inequality outside convex sets.

Presenter: FUSCO, Nicola (Università degli Studi di Napoli Federico II)