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Regularity of equations from epitaxial growth

Epitaxial growth is a process where a thin film of material is deposited onto a much thicker substrate. It is currently widely used in precision manufacturing, due to its ability to produce high quality crystals. Since film and substrate are generally made of different materials, there is a mismatch between their material coefficients, hence the optimal distributions are generally non uniform. Their evolution is often modelled by high, e.g. fourth or even sixth, order PDEs. Analyzing their solutions is thus challenging. In this talk we will present recent results on solutions of several PDEs arising from expitaxial growth.