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A new result in blow-up for long-wave unstable thin film equations

This talk will provide an introduction to long-wave unstable thin film equations of the form

$$u_t = -(u^n u_{xxx})_x - B(u^m u_x)_x$$

The exponents n and m determine whether or not finite-time blow-up of the solution might occur. In this talk, we present new results for the critical ($m = n + 2$) and supercritical cases ($m > n + 2$) on the line. This is joint work with Marina Chugunova (University of Toronto) and Roman Taranets (University of Nottingham).