

Positive solutions to logistic indefinite problems driven by the mean curvature operator

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We study a class of parameter-dependent quasilinear elliptic problems driven by the mean curvature operator. This operator provides a paradigmatic example to describe phenomena of flux-limited diffusion. We present some recent results concerning the existence and the multiplicity of positive solutions in the case of indefinite nonlinearities of logistic type. Depending on the logistic term's behavior at zero, we prove three qualitatively different bifurcation diagrams by varying the parameter. Furthermore, we point out a new multiplicity phenomenon without any similarity with the case of the corresponding semilinear problem. This talk is based on joint works with Pierpaolo Omari (University of Trieste).