Ruin problems with investments on a finite interval: PIDEs and their viscosity solutions

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We study the ruin problem when an insurance company invests its reserve in a risky asset whose the price dynamics is given by a geometric Lévy process. We show that the ruin probabilities on a finite interval satisfy a partial integro-differential equation understood in the viscosity sense and prove a result on the uniqueness of solution for a boundary value problem.

Joint work with Viktor Antipov.