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Pricing analogues of first-to-default options under uncertain correlation.

We study correlation uncertainty in Credit Risk. The goal is to price analogues of first-to-default options under the assumption that the assets follow correlated stochastic processes with known marginal distributions and unknown dependence structure. We solve this problem using tools from Stochastic Analysis and Optimal Control Theory. We provide explicit solutions in some specific examples and numerical approximations in the more general case. This is a joint work with Thomas Salisbury and Alexey Kuznetsov.