

STOCHASTIC CONVEX ENVELOPES AND CONVEX DUALITY IN SINGULAR CONTROL

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We propose a notion of convex envelope for a stochastic process which complements its monotone counterparts given by the well-known upper and lower Snell envelope. As an application we show how to develop a full convex duality result for Bolza type singular control problems. Such problems arise, e.g., when maximizing utility functionals with monotone controls as in irreversible investment problems or with so-called Hindy-Huang-Kreps utilities. This is joint work with Helena Kauppila.