

A GENERALIZED FELLER PROPERTY FOR SABR

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ABSTRACT. In this work we suggest a suitable framework for the SABR model of so-called weighted spaces, on which Feller-like properties hold, with a view on applicability to approximation schemes for unbounded payoffs. We first describe a recently introduced flexible functional analytic framework extending the Feller property towards unbounded functions of controlled growth. Motivated by an analysis of the sub-eigenspaces of the SABR-infinitesimal generator, we accordingly construct spaces on which semigroups of positive bounded operators are in fact strongly continuous. The result is crucial to prove convergence of splitting schemes for payoffs with controlled growth.