INVARIANT, SUPER AND QUASI-MARTINGALE FUNCTIONS OF A MARKOV PROCESS

LUCIAN BEZNEA

We identify the linear space spanned by the real-valued excessive functions of a Markov process with the set of those functions which are quasimartingales when we compose them with the process. Applications to semi-Dirichlet forms are given. We provide a unifying result which clarifies the relations between harmonic, co-harmonic, invariant, co-invariant, martingale and co-martingale functions, showing that in the conservative case they are all the same. The talk is based on joint works with Iulian Cîmpean (Bucharest) and Michael Röckner (Bielefeld).