PREPRINT 94-9

20 pages

UWE KÜCHLER: On life-time-distributions of some one-dimensional diffusions and related exponential families

Abstract: Diffusions X on the positive halfaxis with elastic killing boundary at zero and inaccessible boundary at ∞ are considered. The life-time ζ is finite and $h^\theta(x) = E_x \exp(\theta\zeta)$, $n \geq 0$, is an θ-excessive function. The $h^{(\theta)}$-transforms of X define a family of diffusions, such that the life-time distributions of them form an exponential family of distributions, the inverse local times at zero form an exponential family of processes with independent increments and the spectral measures of them are connected simply by translation.