IMAL PREPRINT # 2015-0031

Publication date: December 11, 2015

APPROXIMATION OF SOLUTION OF FRACTIONAL DIFFUSIONS IN COMPACT METRIC MEASURE SPACES

MARCELO ACTIS AND HUGO AIMAR

ABSTRACT. In this note we prove that the solutions to diffusions associated to fractional powers of the Laplacian in compact metric measure spaces can be obtained as limits of the solutions to particular rescalings of some nonlocal diffusions with integrable kernels. The abstract approach considered here has several particular and interesting instances.