FINE MESH LIMIT OF THE VRJP IN 1D AND BASS–BURDZY FLOW

TITUS LUPU
CNRS/Sorbonne-Université, Paris, France
e-mail: titus.lupu@upmc.fr

CHRISTOPHE SABOT
Université Lyon 1, Villeurbanne, France
e-mail: sabot@math.univ-lyon1.fr

PIERRE TARRÈS
NYU Shanghai, Shanghai, China
e-mail: tarres@nyu.edu

The Vertex Reinforced Jump Process (VRJP) is a model of a reinforced random walk on an electrical network that can be described using a mixture of Markov processes [3]. We studied the fine mesh limit of it in dimension one [2]. We obtained a continuous-time continuous reinforced process on $\mathbb{R}$. We called it Linearly Reinforced Motion (LRM). There are two constructions of it. First as a Markovian diffusion in random potential containing a Wiener term. The second construction uses a convergent Bass–Burdzy flow [1].

This work was supported by the French National Research Agency (ANR): project MALIN (ANR-16-CE93-0003), LABEX MILYON (ANR-10-LABX-0070). TL also acknowledge the support of Dr. Max Rossler, the Walter Haefner Foundation and the ETH Zurich Foundation.

References