

**BRANCHING BROWNIAN MOTION AMONG RANDOM  
TRAPS - A HOMOGENISATION PHENOMENON OVER  
LARGE TIMES**

AMANDINE VÉBER

ABSTRACT. I'll start by a long introduction to branching Brownian motion, a stochastic process describing the evolution of a set of particles moving in  $\mathbb{R}^d$  according to Brownian motion and branching into two at some rate. The trace left by the trajectories of the particles thus look very much like a network of hypha branching and diffusing through space. I'll then present a homogenisation result on the long-term influence of random traps in which the particles are killed at a small rate. These traps can be seen as areas in space where the environment is deleterious for the particles.