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Janos Englander* (janos.englander@colorado.edu) and **Mine Caglar**, , Turkey, and **Mehmet Oz**. *Conditional Speed of Branching Brownian Motion, Skeleton Decomposition and Application to Random Obstacles*. Preliminary report.

We study a d -dimensional branching Brownian motion, among obstacles scattered according to a Poisson random measure with a radially decaying intensity. Obstacles are balls with constant radius and each one works as a trap for the whole motion when hit by a particle. Considering a general offspring distribution, we derive the decay rate of the annealed probability that none of the particles hits a trap, asymptotically, in time.

This proves to be a rich problem, motivating the proof of a general result about the speed of branching Brownian motion conditioned on non-extinction. We provide an appropriate ‘skeleton-decomposition’ for the underlying Galton-Watson process when supercritical, and show that the ‘doomed particles’ do not contribute to the asymptotic decay rate.

This is joint work with Mine Caglar and Mehmet Oz. (Received December 15, 2014)