

1063-60-208

Perla Sousi* (p.sousi@statslab.cam.ac.uk), Selwyn College, Grange Road, Cambridge, CB3 9DQ, England, and **Yuval Peres**. *Brownian motion with variable drift: 0-1 laws, hitting probabilities and multiple points.*

By the Cameron Martin theorem, if a function f is in the Dirichlet space, then $B + f$ has the same a.s. properties as standard Brownian motion, B . In this talk I will present some properties of $B + f$ when f is a deterministic function not in this space. First I will show a 0-1 law, which in particular implies that the Hausdorff dimension of the image and the graph of $B + f$ are constants a.s. I will also present some results on hitting probabilities and multiple points for $B + f$ when the function f is Hölder(α), for $\alpha \leq 1/2$. I will conclude the talk by giving lower bounds on the Hausdorff dimension of the image of $B + f$, for any continuous deterministic function f . (Received August 16, 2010)