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*Concentration of Geodesics in Directed Bernoulli Percolation.* Preliminary report.

We study the deviation of the geodesics from the main diagonal in directed last passage site percolation with i.i.d. Bernoulli weights on the vertices of a  $n \times n$  grid. At first, when  $n$  is large enough, all the geodesics are shown to be concentrated in a cylinder, centered on the main diagonal and of width of order  $n^{(2\kappa+2)/(2\kappa+3)}\sqrt{\ln n}$ , where  $1 \leq \kappa < \infty$  is the curvature of the shape function at  $(1, 1)$ . Next, via an iterative scheme, the width order is improved to  $n^{(2\kappa+2)/(2\kappa+3)+\epsilon}$ , for any  $\epsilon > 0$ . Finally, we will show the generality of this methodology by applying to other related models such as directed first passage site percolation and the longest common subsequence problem. This talk is based on a joint work with C. Houdré. (Received September 06, 2016)