Chemical Distance on Random Interlacements

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We investigate the chemical (or graph) distance on the infinite occupied cluster of random interlacements. We will explain that large balls in this distance obey a full shape theorem. The main tool in proving this is a `large deviation estimate', similar to the result of Antal and Pisztora in the case of Bernoulli percolation. As corollary, we provide estimates on the graph distance for the range of a random walk on torus.

This is joint work with Serguei Popov.