

**A general approach to small-time large deviations for sample paths of infinite dimensional symmetric Dirichlet processes with applications to the Wasserstein diffusion**

**Stephan Sturm** (TU Berlin)

Symmetric diffusions on a Polish space can be characterized via local, quasi-regular symmetric Dirichlet forms. We define a suitable pointwise intrinsic metric associated to the Dirichlet form which allows us to introduce the notion of energy (with respect to this intrinsic metric) of a sample path.

Under mild assumptions—which imply the necessary exponential tightness—we prove a general small-time sample path large deviation principle for diffusions on a Polish space. As concrete application of this general approach we derive the small time large deviations for the Wasserstein diffusion on the space of probability measures on the unit interval.