## The Fisher metric and probabilistic mappings

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## Abstract

In my talk I shall introduce a class of almost 2-integrable (nonparametric) statistical models that encompasses the class of 2-integrable parameterized statistical models introduced by Ay-Jost-Lê-Schwachhöfer. Then I shall show that the class of almost 2-integrable statistical models is preserved under probabilistic mappings and I shall extend the monotonicity theorem to the class of almost 2-integrable statistical models. As a consequence, the Fisher metric on an almost 2-integrable statistical model  $P \subset \mathcal{P}(\mathcal{X})$  is preserved under any probabilistic mapping  $T : \mathcal{X} \rightsquigarrow \mathcal{Y}$  that is sufficient w.r.t. P.