PROJECTIVE CONVERGENCE OF MEASURES

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Resumo/Abstract:

We define a metric on the probability measures set that we call projective distance. We prove that the resulting metric space is complete.

The first objective of this work is to compare the topology induced by our metric with the topology induced by two known metrics, namely, the weak distance D^* (it may be any distance compatible with the weak topology, in particular we choose the canonical) and the $\bar{d}$-distance introduced by Ornstein. On one hand the topology induced by the projective convergence is finer than the weak topology. On the other hand, we exhibit examples that allow us to conclude that our space is not topologically comparable with the defined by the $\bar{d}$-distance.

The second objective, is to provide a family of measures on which the entropy is preserved under the scheme of projective convergence as well as present some conditions to guarantee that the projective limit of mixing measures is mixing.