

Synchronization of "Pliss times"

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We study the problem of lifting a measure to an induced map. In particular, we give a necessary and sufficient condition for a measure to be liftable as well as a condition for the lift to be an ergodic measure. We introduce the concept of a coherent schedule of events and relate it to the lift problem. As a consequence, we prove that we can always synchronize coherent schedules at almost every point with respect to a given invariant probability μ , showing that we can synchronize "Pliss times" μ almost everywhere. We also provide a version of this synchronization to non-invariant measures and, from that, we obtain some results related to Viana's conjecture about the existence of SRB measures for maps with non-zero Lyapunov exponents for Lebesgue almost every point.