**Stochastic Processes under new Concepts in Measure Theory**
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The traditional concept of a stochastic process has - in case of an uncountable time domain - the problem that the domain of its canonical measure in the path space is much too small, so that one needs extensions (or versions) of an a priori unknown multitude. In the present talk the author uses his recent work in measure and integration to produce a modified concept of a stochastic process. It replaces the canonical measure with a unique new measure in the path space, which has an immense domain and appears to have adequate properties. The two kinds of processes are in one-to-one correspondence when the state space is a Polish topological space. The new measure is then an extension of the previous canonical one.