Natural properties that a randomness notion should have

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Martin-Löf (1966) proposed a randomness notion that is called Martin-Löf randomness now. Schnorr (1971) didn't agree with this definition and proposed another randomness notion that is called Schnorr randomness now. Subsequently many properties are proved on Martin-Löf randomness that a randomness notion should have such as universality, characterization by complexity and van Lambalgen's Theorem. Then Martin-Löf randomness has been regarded as the most natural randomness notion.

It is after 2000 that many natural properties are proved on Schnorr randomness. Although Schnorr randomness does not have universality, it is quite doubtful to say that Martin-Löf randomness is more natural than Schnorr randomness.

In this talk I introduced some properties that Martin-Löf randomness and Schnorr randomness have, which includs my recent results on Schnorr randomness. Then I claim that Schnorr randomness is much more natural randomness notion especially in studying the relation with computable analysis.

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