

Time-Predictable Model with Disturbances

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The time-predictable model, which is based on time-invariant strength of a fault, would lead a simple relationship between slip and occurrence time of earthquakes under assumption of a constant rate of stress accumulation. However, recent observations show that the stress accumulation process is often perturbed by a large earthquake or a slow event taking place near the fault. If we assume stress disturbances represented by a Brownian motion, 'time-predictable model with disturbances' can be easily formulated on the basis of BPT (Brownian Passage Time) model. A BPT model is found to show almost identical goodness of fit to the data with a lognormal model.

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