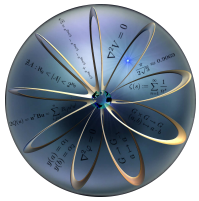

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independent increment

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A stochastic process $\{X(t) \mid t \in T\}$ of real-valued random variables $X(t)$, where T is linearly ordered, is said have *independent increments* if for any $a, b, c, d \in T$ such that $a < b < c < d$, $X(a) - X(b)$ and $X(c) - X(d)$ are independent random variables.

Remark. In case when $X(t)$ is monotonically non-decreasing, as in the case of a counting process, it is customary to write $X(b) - X(a)$ and $X(d) - X(c)$ instead of the above to emphasize the comparison of two positive quantities (for example, the numbers of occurrences of a certain event in some time intervals).