CONVERGENCE IN LAW OF PARTIAL SUMS OF LINEAR PROCESSES IN P-VARIATION NORM

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Let $X_1, X_2, \ldots$ be a sequence of short memory linear processes, $S_n$ be the $n$th partial sum process $S_n(t) = X_1 + \cdots + X_{\lfloor nt \rfloor}$, $t \in [0, 1]$, and $2 < p < \infty$. We shall discuss a convergence in law of $n^{-1/2}S_n$ to a Wiener process in $p$-variation norm. In the case when $X_1, X_2, \ldots$ is a sequence of independent identically distributed real-valued random variables, the result is proved in [1].

References