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THE CENTRAL LIMIT THEOREM FOR MARKOV CHAINS WITH GENERAL STATE SPACE

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We consider a Markov chain with general state space and an embedded Markov chain sampled at the times of successive returns to a subset A_0 of the state space. We assume that the latter chain is uniformly ergodic but the original Markov chain need not possess this property. We develop a modification of the spectral method and utilize it in proving the central limit theorem for the Markov chain under consideration.

Key words and phrases: central limit theorem, Markov chain, transition function, space of complex-valued measures, spectral method, resolvent, kernel of an operator.

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