REMARKS ON PICKANDS' THEOREM

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Abstract: In this article we present the Pickands theorem and his double sum method. We follow Piterbarg's proof of this theorem. Since his proof relies on general lemmas, we present a complete proof of Pickands' theorem using the Borell inequality and Slepian lemma. The original Pickands' proof is rather complicated and is mixed with upcrossing probabilities for stationary Gaussian processes. We give a lower bound for Pickands constant. Moreover, we review equivalent definitions, simulations and bounds of Pickands constant.

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