A STUDY OF THE DISTANCES AND INCREMENTS BETWEEN PRIME NUMBERS BY MODULAR SEGREGATION AND EXTREME VALUE THEORY

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Abstract

Recently there has been a renewed interest in studying the distribution of prime number distances and increments using modern statistical methods. This paper looks into the distribution of differences and increments separated modulo six and uses Extreme Value Theory to model the extreme values to certain distributions. We found that the excesses may be modeled by a generalized pareto distribution and that the increments and distances are modeled by Weibull distributions.