

On the Sub-Gaussianity of the r-Correlograms

Andrei Volodin, *University of Regina, Canada*

This is my joint research with Dr. Rita Giuliano (Universita di Pisa) and Dr. Manuel Ordonez Cabrera (Universidad de Sevilla), but initially this problem has been brought to our attention by Professor Dr. Yuri Vasil'evich Kozachenko.

The topic of my talk concerns the classical problem of establishing properties of estimators for the correlation function of a stationary Gaussian process. We show that the centered relay correlation function is a sub-gaussian random variable. This is done by a careful analysis of its Laplace transform and by estimating of the sub-gaussian standard of the r-Correlograms.

There are still many problems that are not solved, while the technique is already developed. We invite all interested researchers and graduate students to join our research team.