A Method of Fundamental Solutions Depending Only on the Argument

George Jaiani

ABSTRACT

The Laplace equation on the plane has two well-known fundamental solution: one depending only on the distance and another one depending only on the argument. The fundamental solution depending on the distance plays a crucial part in the investigations of boundary value problems for elliptic equations and systems. The fundamental solution depending only on the argument was used seldom and only in the case of the Laplace equation. The aim of the lecture is to discuss a question of application of the fundamental solution depending only the argument to effective solution of boundary value problems for more general partial differential equations then the Laplace equation and to investigation of qualitative properties of the above solutions.