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Linear Model with Nuisance Parameters and with Constraints on Useful and Nuisance Parameters*

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Abstract

The properties of the regular linear model are well known (see [1], Chapter 1). In this paper the situation where the vector of the first order parameters is divided into two parts (to the vector of the useful parameters and to the vector of the nuisance parameters) is considered. It will be shown how the BLUEs of these parameters will be changed by constraints given on them. The theory will be illustrated by an example from the practice.

Key words: Regular linear regression model; nuisance parameters; BLUE; constraints.

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1 Introduction, notations

The following notation will be used throughout the paper:

R^n	the space of all n-dimensional real vectors;
$\boldsymbol{u}_p$, $\boldsymbol{A}_{m,n}$	the real column p-dimensional vector, the real $m \times n$ matrix;

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