

Transformations of measures: analytic and geometric problems

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The talk gives a survey of recent results on three types of transformations of measures on \mathbb{R}^n related to some basic analytic and geometric problems such as change of variables formulas and isoperimetric inequalities.

First we discuss the so called triangular transformations, which have the form

$$T = (T_1, \dots, T_n),$$

where each component T_k depends only on the variables x_1, \dots, x_k . The second type of transformations concern the Monge-Kantorovich problem of optimal mass transportation. Finally, yet another type of transformations is connected with geometric flows.

All necessary concepts will be explained in the talk; no special knowledge is assumed.