

## SINGULAR FINSLER SPACES. VARIATIONAL PROBLEM

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La notion d'espace Finsler singulier est introduite et étudiée.

### 1. INTRODUCTION

The notion of singular Finsler spaces was not defined till now. It is very clear in the case of Riemannian spaces. In this respect some remarkable papers were published by Romanian mathematicians Grigore Moisil[7] and Vasile Oproiu[9]. Some properties of the so-called partial degenerate Finsler spaces were studied in the paper[1].

In the present paper we define the concept of singular Finsler space  $SF^n$  as a natural extension of singular Riemannian space. We study the variational problem of the (nonregular) Lagrangian determined by the square of the fundamental function  $F$  of the space  $SF^n$  and the law of conservation of the energy of space  $SF^n$ . The theory is applied in the case of geodesics of mentioned space. We prove the existence of the spaces  $SF^n$  and give some examples like singular Randers spaces.