

ЦЕНТАР ЗА НЕЛИНЕАРНУ ДИНАМИКУ И АКТИВНЕ КОНСТРУКЦИЈЕ
МАШИНСКОГ ФАКУЛТЕТА У НИШУ



И
ПРОЈЕКАТ ON144002



ВАС ПОЗИВА ЈУ ДА УЧЕСТВУЈЕТЕ У РАДУ СЕМИНАРА

Нелинеарна динамика - Милутин Миланковић

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одржаће предавање под називом

The Dynamical Systems of Rheonomic Finslerian Mechanical Systems

Kratak sadržaj: In this paper it will be studied the dynamical system of a rheonomic Finslerian mechanical system, whose evolution curves are given, on the phase space $TM \times R$, by Lagrange equations.:

$$\frac{d}{dt} \left(\frac{\partial \mathbf{L}}{\partial \dot{q}^i} \right) - \frac{\partial \mathbf{L}}{\partial q^i} = \sigma(q^i, \dot{q}^i, t)$$

where $\mathbf{L}(q^i, \dot{q}^i, t) = \mathbf{F}^2(q^i, \dot{q}^i, t)$ is a regular time dependent Lagrangian, $\mathbf{F}(q^i, \dot{q}^i, t)$ is the fundamental function of a rheonomic space and $\sigma(q^i, \dot{q}^i, t)$ are the components of a external force defined as d -covector field on $TM \times R$. Then one can associate to the considered mechanical system a vector field S on $TM \times R$, which is a canonical semispray. All geometric objects of the rheonomic Finslerian mechanical system one can be derived from SSS . So we have the fundamental notion as the nonlinear connection S , the metrical N -linear connection, etc.