

Seminar: "Geometry&Physics", DFT (IFIN-HH)
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Zoom link: <https://us02web.zoom.us/j/891199217919>

Date: Wednesday, November 4, 2020, 17:00 Bucharest time (15:00 GMT)

Title: **The duality-covariant formulation of classical Abelian gauge theories**

Speaker: **Calin Lazaroiu** (Department of Theoretical Physics, NIPNE)

Abstract: "I give a brief account of the duality-covariant formulation of classical Abelian gauge theories of rank n defined on a Lorenzian four-manifold (of which ordinary electromagnetism is a very special example when $n = 1$). At the level of field strengths, such theories admit a formulation as twisted self-dual theories, which is manifestly covariant with respect to electromagnetic duality. Imposing the appropriate version of the Dirac integrality condition leads to a description of such theories in terms of gauge potentials described by connections on a principal bundle with weakly Abelian structure group G , which in the case at hand is the group of affine transformations of a special symplectic torus. Namely, G is a semidirect product of a $2n$ -dimensional torus group A with a discrete group Γ which is a modified Siegel modular group."