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The Doubled Geometry of String Theory

Felix Rudolph

Arnold Sommerfeld Center for Theoretical Physics, Department for Physics, Ludwig-Maximilians-University Munchen

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Abstract:

A possible geometry for "Quantum Gravity" motivated by principles of general relativity and quantum mechanics will be constructed. String theory naturally lives in such a geometry which has twice the usual number of dimensions. I will introduce the idea of Born geometry and discuss concepts such as the doubled string sigma model and the corresponding effective target space theory called double field theory. This makes the global O(d,d) symmetry of the string Hamiltonian manifest in the target space. Using the tools of Born geometry then allows for a generalization of the kinematics and dynamics of double field theory.

Voditelj seminara: Andjelo Samsarov $\langle asamsarov@irb.hr \rangle$