

# **N=4, d=3 Born-Infeld theory in component approach**

Nikolay Kozyrev

Joint institute for nuclear research  
Joliot-Curie, 6  
Dubna, Russia

In a few recent papers, we developed method of construction of component supersymmetric p-brane actions, those bosonic sector consists only of scalar fields, and constructed the component supersymmetric action for the d=4 Born-Infeld theory with N=2 to N=1 supersymmetry breaking. To develop the method of construction of effective brane actions, those depend on both scalar and gauge fields, we discuss the action for vector multiplet of N=2, d=3 supersymmetry, with N=4 to N=2 supersymmetry breaking. It appears that for successful construction of this theory it is convenient to use not the standard formulation of the vector multiplet, but another one, there scalar field is not explicit, but restored as solution of some Bianchi identity.