

# The Left-Right $SU_L(2) \times SU_R(2)$ Model of Electroweak Interaction

Tuesday 5 June 2018 19:10 (20 minutes)

The  $SU_L(2) \otimes SU_R(2)$  gauge model of the unified theory of the electromagnetic and weak interactions, which is free of the auxiliary self-interaction scalar field, is developed. Breaking the initial symmetry, the  $SU_L(2) \otimes U_R(1)$  Lagrangian is derived. The obtained  $SU_L(2) \otimes U_R(1)$  Lagrangian contains all of the terms, corresponding to free boson and fermion fields as well as to interactions between them, which are in the classical Standard Model of the electroweak interaction. All boson fields, including the Higgs one, directly arise due to violation the initial symmetry, and are generated by the initial gauge fields. The obtained masses of the Higgs particle and of the gauge boson fields are in agreement with the experimental data[1,2].

1. ATLAS Collaboration, Physics Letters B, v.716, 30 (2012).

2. Particle Data Group, C. Patrignani et al., Chin. Phys. C, v.4, 100001 (2016).

## Subject

EW+Top+Higgs

## Abstract Title

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**Session Classification:** Parallel Session Higgs+Top+EW