

Abstract Submitted
for the SES14 Meeting of
The American Physical Society

C-invariance Criterion for the Gauge Field RASULKHOZHA S. SHARAFIDDINOV, Institute of Nuclear Physics, Uzbekistan Academy of Sciences, Tashkent, 100214 Ulugbek, Uzbekistan — To each type of gauge boson corresponds a kind of current. Therefore, the photon and other boson leptonic currents include both vector C-even and axial-vector C-odd components. In these circumstances, it seems possible to separate all gauge bosons into the two classes. The first of them consists of C-invariant vector bosons. They are of course the mediate bosons of vector (V) types of interactions. We include in this class the vector photons γ^V and weak W^\pm -bosons. A new example of the first group may be weak vector Z^\pm -bosons. To the second class apply the axial-vector C-noninvariant bosons. They come forward as the mediate bosons of axial-vector (A) types of interactions. A beautiful example is weak $Z^0(W^0)$ -bosons and new axial-vector photons (γ^A) having the Coulomb nature. Recognizing this behavior of the mediate bosons and accepting its ideas about that a classification of elementary particles and currents with respect to C-operation [1] is compatible with gauge invariance, we would change our presentations about matter fields. Without such a changing, the unified field theory construction of elementary particles still remains not quite in line with nature.

[1] R.S. Sharafiddinov, Bull. Am. Phys. Soc. 57, KA.00069 (2012).

Rasulkhozha S. Sharafiddinov
Institute of Nuclear Physics, Uzbekistan Academy of Sciences,
Tashkent, 100214 Ulugbek, Uzbekistan

Date submitted: 09 Sep 2014

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