



SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	Physical Science International Journal
Manuscript Number:	Ms_PSIJ_47006
Title of the Manuscript:	Differences Between Two Weak Interaction Theories
Type of Article:	

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	Authors' response to final evaluator's comments
<p>I agree with the author that, in the notation of Ref. [14] one can take the Dirac spinor $w^1(0) = (1,0,0,0)$ as a state with a definite spin (as given in Eq.(3.2) of [14]).</p> <p>Then the action of the operator $(1+\gamma_5)$ as shown in Eq.(2) on page 6 of the manuscript produces a mixed state of $w^1(0)$ and $w^3(0)$ (note that unitarity here can be restored by an adjustment of the operator normalization, i.e. factor 1/2). So one gets a quantum mixture of two states with different spins. Such quantum mixed states are well known. The mixed state consists of solutions of the Dirac equation(s) which are at rest and have the initial mass m. So this mixed state doesn't have infinite energy-momentum, since the operator $(1+\gamma_5)$ acts only in the spinor space and doesn't affect 4-momenta in the Minkowski space. So the critics of the author of the standard $(1+\gamma_5)/2$ projection operators is completely wrong. Note that the standard treatment of electroweak interactions is both justified theoretically and verified experimentally (up to certain but very good precision).</p> <p>But the main problem of the present paper is not the faults in the critics of the Standard Model. The problem is that the suggested alternative is not elaborated. Observable consequences of the new model have not been confronted to experimental data on weak processes, e.g. for decays of Z and W bosons. Meanwhile the standard approach describes these decays in the perfect agreement with experimental data. Moreover as I noted in the first report, the suggested model is obviously non-renormalizable and violates unitarity.</p> <p>For these reason I recommend to reject the manuscript.</p>	

Reviewer Details:

Name:	Andrej B. Arbuzov Bogoliubov
Department, University & Country	Joint Institute for Nuclear Research, Russia