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Analysis of experimental data on neutron decay for the possibility of the existence of right vector boson W_R

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The analysis of the latest most accurate experimental data on neutron decay for the possibility of the existence of a right vector boson W_R was carried out. As a result of the analysis, it was found that there is an indication of the existence of a right vector boson W_R with a mass of $M_{W_R} = 304^{+28}_{-22}$ GeV and a mixing angle with $W_L : \zeta = -0.038 \pm 0.014$. This result should be considered, on the one hand, as a challenge to experimental physics at colliders, where the upper limit on the mass of the right vector boson W_R is significantly higher, and on the other hand, it indicates the need for even more accurate measurements of neutron decay and its theoretical analysis. Possible consequences are considered, assuming that the result can be confirmed. First, an extension of the SM by introducing right vector bosons $W_R^{\pm}$, Z_R and right neutrinos would be required. Second, right neutrinos can be considered as candidates for dark matter.

Primary author(s) : Prof. SEREBROV, Anatolii (NRC "Kurcharov institute" - PNPI)

Presenter(s) : Prof. SEREBROV, Anatolii (NRC "Kurcharov institute" - PNPI)

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