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The LHC state at 125.7 GeV as an evidence for non-perturbative electro-weak effects

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The recently discovered resonance at 125.7 GeV in invariant mass distribution of $\gamma\gamma$ and of $l^+l^-l^-l^-$ may be tentatively interpreted as a scalar bound state X consisting of two W . In the present note we consider this option and show that this interpretation agrees existing experimental data including the last LHC discovery and the $b\bar{b}$ bump reported by CDF and D0 collaborations at TEVATRON. The application of this scheme gives satisfactory agreement with existing data without any adjusting parameter but the bound state mass 125.5 GeV. There are pronounced distinctions of the W -hadron option from the SM Higgs case in decay mode $X \rightarrow \gamma l^+l^-$ and in the cross-section of process $p + p \rightarrow \gamma X$.

Author: Prof. ARBUZOV, Boris (Moscow State University, Skobeltsyn Institute of Nuclear Physics)

Presenter: Prof. ARBUZOV, Boris (Moscow State University, Skobeltsyn Institute of Nuclear Physics)

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