

Institut Ruđer Bošković
ZAVOD ZA TEORIJSKU FIZIKU
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SEMINAR ZAVODA ZA TEORIJSKU FIZIKU

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Scalar Leptoquarks at Low and High Energies

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Abstract:

Leptoquarks interact with quarks and leptons and they are usually present in theories which unify fundamental interactions and in these theories they have masses close to the GUT scale. However, in some of unification approaches scalar leptoquarks might have masses of the order 1 TeV. These light leptoquark states should not mediate proton decay at the tree level. Our analysis is devoted to the light leptoquarks which do not destabilise proton. These "non-dangerous" scalar leptoquarks might have sizeable couplings to the Standard Model fermions and such states might modify processes at the low-energies. At the same time they can be seen at Large hadronic collider directly. The leptoquark impact on low and high energy processes is discussed.

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