

SYNERGIES TOWARDS THE FUTURE STANDARD MODEL

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Testing Composite Higgs models with Vector Boson Scattering at LHC

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In recent years, Vector Boson Scattering (VBS) has been extensively studied to gain a deeper understanding of the fundamental interactions and the gauge structure of the Standard Model (SM). Additionally, it serves as a powerful probe for new physics processes at multi-TeV energy scales, offering a window into physics beyond the Standard Model.

Composite Higgs models instead provide a promising solution to the Naturalness problem of the Higgs sector.

Our focus is on Composite Higgs models with a fermionic UV completion that predict the existence of spin-1 resonances mixing with the W and Z bosons. For some of these models, these electroweak spin-1 resonances can be as light as 1.5 TeV consistent with all direct searches. We investigate in which extent VBS can give further constraints for these models.

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