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Wide composite vector resonance at the LHC

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Heavy Vector resonances are a general prediction of Composite Higgs Theories, where the Higgs arises as a pseudo Nambu Goldstone Boson. Typically at the LHC these states are sought for via narrow resonant searches, looking for "bumps" in the dilepton invariant mass spectrum. These states can however undergo decays into a pair of top partners in a large and natural range of Composite Higgs theories parameter space, thus evading current LHC limits. We however show how, by reinterpreting LHC analyses designed for top partners searches, strong limits can be set on these otherwise elusive resonances, highlighting the prospect for these searches at the run-2 of the LHC.

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