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## Sensitivity for heavy resonances at the HL-LHC with the Phase-2 CMS detector

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To extend the LHC physics program, it is foreseen to operate the LHC in the future with an unprecedented high luminosity. To maintain the experiment's physics potential in the harsh environment of this so-called phase-2, the detector will be upgraded. At the same time the detector acceptance will be extended and new features such as a L1 track trigger will be implemented. Simulation studies evaluated the physics reach of benchmark searches for physics beyond the SM. One of the open question being discussed right now, are models explaining the observed flavour anomalies. They postulate leptoquarks or Zprime-like new bosons, with enhanced couplings to third generation particles. In this context future searches in the  $t\bar{t}b$  mass spectrum are discussed, as well as searches for leptoquarks and heavy bosons with tau in the final state. Another class of interesting models suggest compositeness, a fermion substructure, leading to a potential observation of excited leptons or composite neutrinos. All these studies show a significantly enhanced sensitivity and will shape the future research program.

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