

## **Search for new resonances decaying into a Higgs boson and a generic new boson X in the $XH \rightarrow q\bar{q}b\bar{b}$ final state with the ATLAS detector**

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A search for heavy resonances  $Y$  decaying into a Standard Model Higgs boson ( $H$ ) and a new boson ( $X$ ) is performed with proton-proton collision data with the ATLAS detector at the CERN Large Hadron Collider. The Physics channel where the Higgs decays into  $b\bar{b}$  and the  $X$  to light quarks are considered, thus resulting in a fully hadronic final state. A two-dimensional phase space of  $XH$  mass versus  $X$  mass is scanned for evidence of a signal. Upper limits are set on the production cross-section of the resonance as a function of  $XH$  and  $X$  masses.

**Author:** ATLAS COLLABORATION

**Presenter:** AURICCHIO, Silvia (Universita e INFN sezione di Napoli (IT))

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