

Abstract Submitted  
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**Search for VBF production of heavy resonances decaying to  $Z(\nu\nu)W/Z(q\bar{q})$  final state** KAMAL LAMICHHANE, Texas Tech University — A search for heavy resonances decaying to a pair of vectors bosons is presented which utilizes events in which a hadronically decaying Z or W boson is identified using jet substructure techniques and large missing transverse momentum is found. Data analyzed were recorded by the Compact Muon Solenoid experiment at the CERN Large Hadron Collider in 2016, 2017, and 2018, and correspond to 137 fb<sup>-1</sup>. The events are categorized as having arisen from Vector Boson Fusion process or not, and are characterized by their transverse mass distribution. The standard model backgrounds are estimated based on observed yields in control regions. No excess of events above the expected SM background are observed and limits are placed on the production cross section of Radion (spin-0), Wprime (spin-1) and Bulk graviton (spin-2) particles.

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