A search for narrow diboson high mass resonances in a dijet final state is performed in 20.3 fb⁻¹ of proton-proton collisions at a center-of-mass energy of √s = 8 TeV, collected in 2012 by the ATLAS detector at the Large Hadron Collider. The jet mass and jet substructure properties have been used to tag each jet as a boson. Using the invariant mass distribution of the boson tagged dijet system, 95 % CL exclusion limits are set on the production cross section times branching ratio to WW, WZ, or ZZ final states of W' Extended Gauge Model (EGM) bosons and Kaluza-Klein excitations of the graviton in the bulk Randall-Sundrum model, as a function of the resonance mass. The observed mass distributions exhibit an excess of events above 1.8 TeV.

**Analysis strategy**

- **Final state oriented analysis**
  - Heavy diboson resonances predicted in many extensions of the SM such as: Supersymmetry, Warped Extra Dimensions, Grand Unified Theories

- **Why fully hadronic analysis?**
  - Vector boson hadronic decays
  - BR(W/→qq)→3BR(W/→lνlν), No MET
  - High-pT region
    - Jet Substructure provides great sensitivity
    - QCD jet background dominated

- **Boosted W/Z topologies**
  - Dealing with a (O(TeV)) vector boson pT
    - Vector bosons have masses of O(100 GeV)
    - “New phys” particles produced with masses of O(TeV) = 1 to 5 TeV in 2012
  - For a “New phys” particle with mass larger than 1 TeV Decay products are merged into a single jet
    - BOOSTED REGIME

- **Event selection**
  1. Trigger detection events sampled with barrel detector from 2012
  2. Missing jet trigger, L2+ saver jet in delta ET
  3. Di jets in the invariant mass range 1.0 < mjj < 3.0 TeV
  4. Requirement for the jets in the leading ET and ET−200 GeV in the transverse plane, and 100 GeV in the bottom plane

- **Background fit on tagged spectra**
  - Global significance, taking into account of 2.5 σ

- **Systematics**
  - Background uncertainties
    - Systematics related to the signal reconstruction and selection efficiency produce both shape and normalization effects

- **Upper limits on the cross section times branching ratio**
  - 95 % CL limits are set on σ x BR following the CLs prescription

- **Event display**
  - Events selected by the WZ selection. The dilepton invariant mass mll is 2.28 TeV, the leading jet has pTl > 1.1 TeV and pTll = 144 GeV, and the subleading jet has pTl > 1.1 TeV and mll > 71 GeV