

Abstract Submitted  
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**W' signatures with odd Higgs particles** ANDREA PETERSON, Univ of Wisconsin, Madison, BOGDAN DOBRESCU, Fermilab — We point out that  $W'$  bosons may decay predominantly into Higgs particles associated with their broken gauge symmetry. We demonstrate this in a renormalizable model where the  $W'$  and  $W$  couplings to fermions differ only by an overall normalization. This “meta-sequential”  $W'$  boson decays into a scalar pair, with the charged one subsequently decaying into a  $W$  boson and a neutral scalar. These scalars are odd under a parity of the Higgs sector, which consists of a complex bidoublet and a doublet. The  $W'$  and  $Z'$  bosons have the same mass and branching fractions into scalars, and may show up at the LHC in final states involving one or two electroweak bosons and missing transverse energy.

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