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Model-independent searches for new physics in multilepton final states with the ATLAS detector

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A model independent search for new physics in multilepton final states is presented using 20 inverse femtobarns of proton-proton collisions at a center-of-mass energy of 8 TeV collected by the ATLAS experiment at the CERN Large Hadron Collider. Events with three or more leptons are categorized based on their flavor content and presence of a Z-boson candidate. Signal regions are constructed by making cuts on kinematic variables sensitive to lepton kinematics, jet activity, missing transverse momentum, and heavy flavor production. The results of the search are presented in a model-indepenent format. Fiducial efficiencies for leptons are also provided, which can be used along with the results to constrain untested models of new physics producing multilepton final states.

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