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## **Measurements of Higgs boson properties in decays to two tau leptons and search for lepton-flavor-violating Higgs boson decays into tau leptons using the ATLAS detector**

*Wednesday 6 December 2023 14:10 (20 minutes)*

Detailed measurements of Higgs boson properties can be performed using its decays into fermions, providing in particular a key window into the nature of the Yukawa interactions. This talk presents the latest measurements by the ATLAS experiment of Higgs boson properties in its decays into pairs of tau leptons, using the full Run 2 pp collision dataset collected at 13 TeV. They include in particular measurements of Simplified Template Cross Sections, differential cross sections, and CP properties, as well as its interpretation within the framework of the Standard Model Effective Field Theories. Searches for lepton-flavor-violating Higgs boson decays to  $e\tau$  and  $\mu\tau$  lepton pairs are also presented.

### **Name of collaboration or list of co-authors**

ATLAS Collaboration

**Primary author:** DALLAPICCOLA, Carlo (University of Massachusetts (US))

**Presenter:** ÖNCEL, Oğul (Albert Ludwigs Universitaet Freiburg)

**Session Classification:** Wednesday after lunch