



CMS plans for LHC Run II DESY & UniHH within SFB B9

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Groups

DESY

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Uni. HH

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CMS DESY & UniHH Plans

DESY

- * **$H \rightarrow \tau\tau$ studies with Run2 LHC data**
 - analysis of $e+\mu$ and $\tau_h + \tau_h$ final states
 - channels combination: coupling and mass measurements of $H(125)$
 - search for MSSM $H/A \rightarrow \tau\tau$
- * **measurements of Higgs parity**
 - in the fully hadronic channel using angular variables

Uni. HH

- * **$Z \rightarrow \tau\tau$ studies with Run2 LHC data**
 - cross-section measurement
 - test developed tools: tau lifetime, kinematic fit, tau polarisation effects, ...
- * **$H \rightarrow \tau\tau$ studies with Run2 LHC data**
 - analysis of $\tau(\mu) \tau_h$ final state
- * **search for Higgs rare decays:**
 - dimuon decay channel
 - check prospects for J/ψ and γ decay
- * **search for Heavy Higgs:**
 - in dihiggs SM state $h(\tau\tau)h(bb)$
- * **search for LFV Higgs decays:**
 - in $e\tau$ and $\mu\tau$