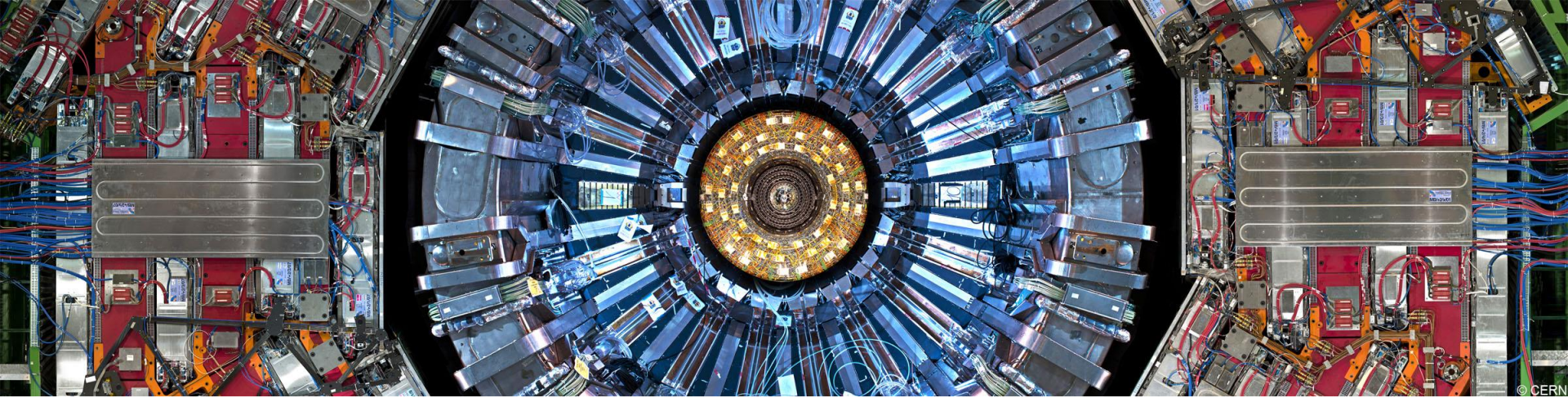




Status of Aachen

Higgs CP Workshop

Mate Farkas, Thomas Müller, Lucas Wiens, **Alexander Zotz**

10.10.2019

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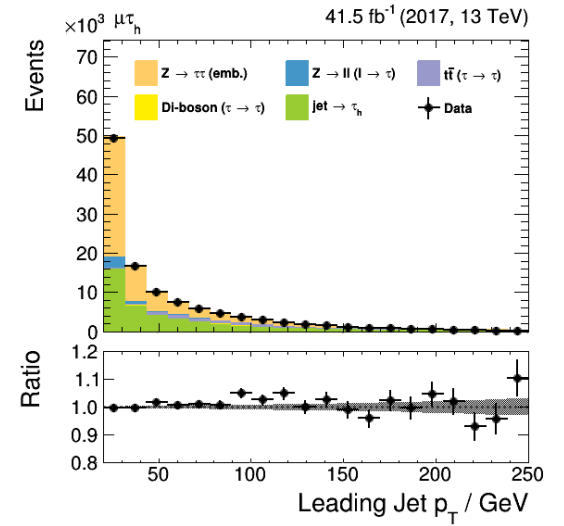
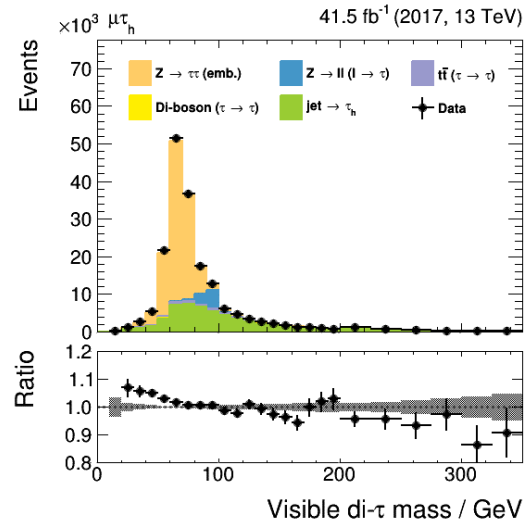
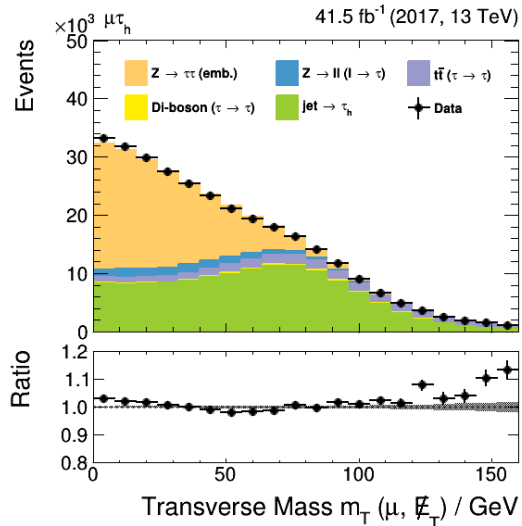
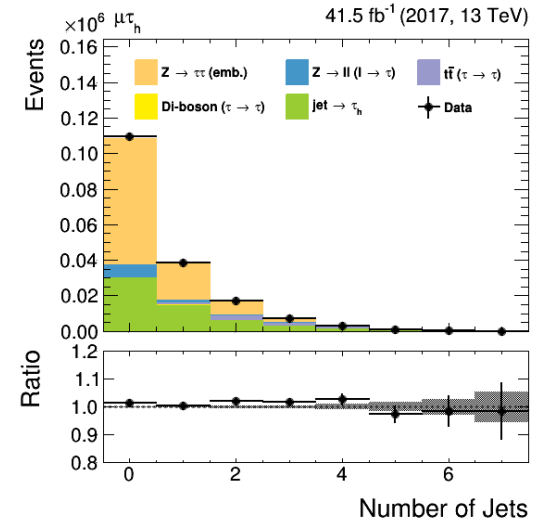
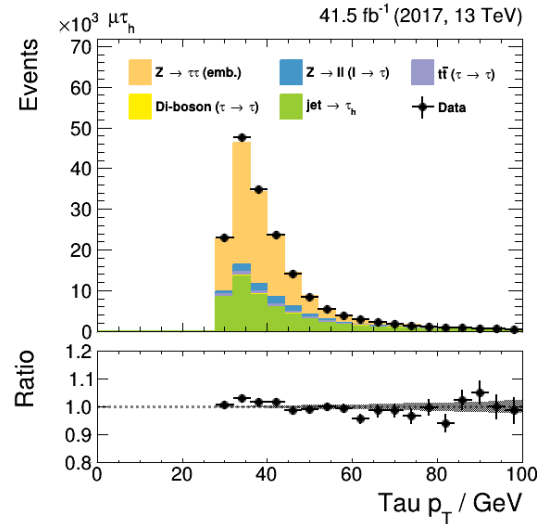
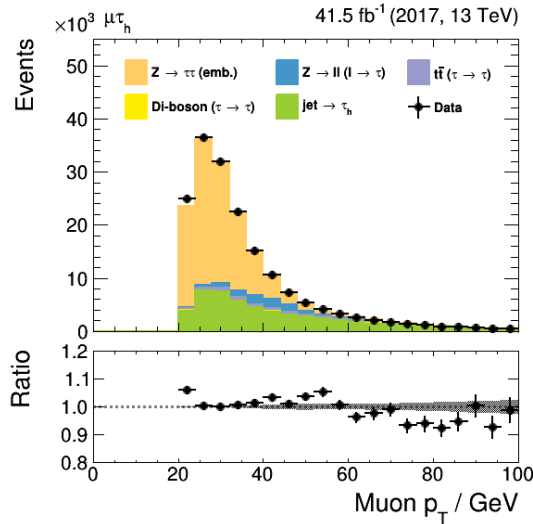
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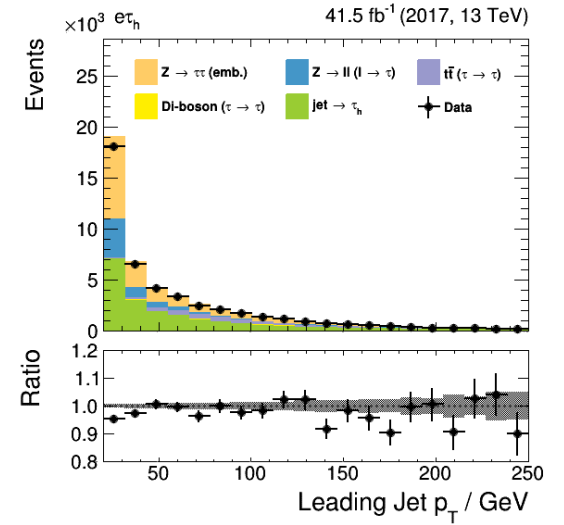
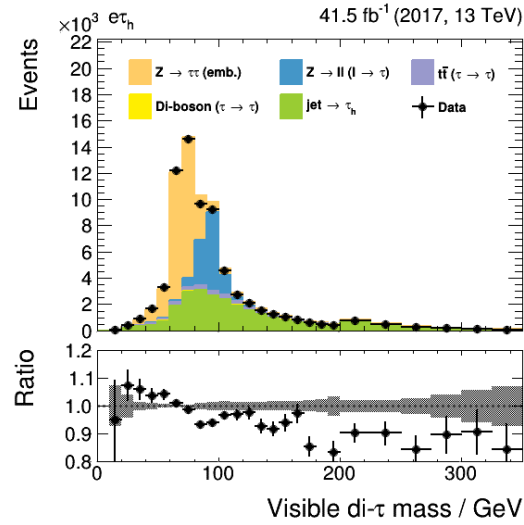
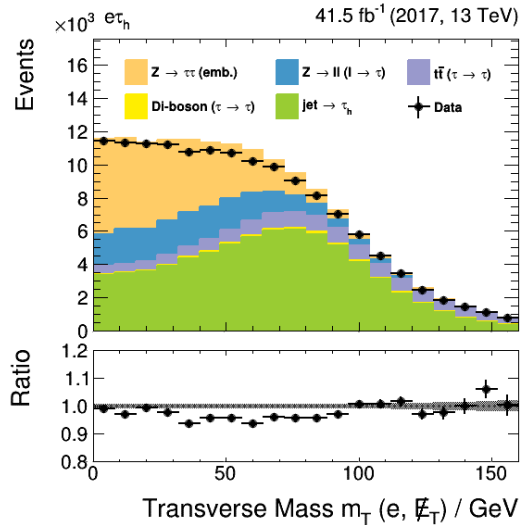
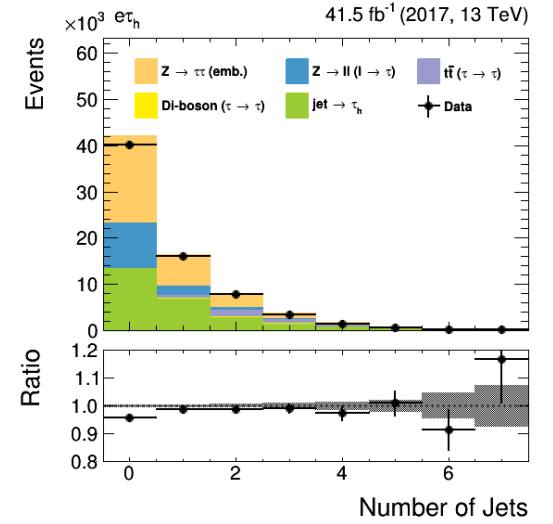
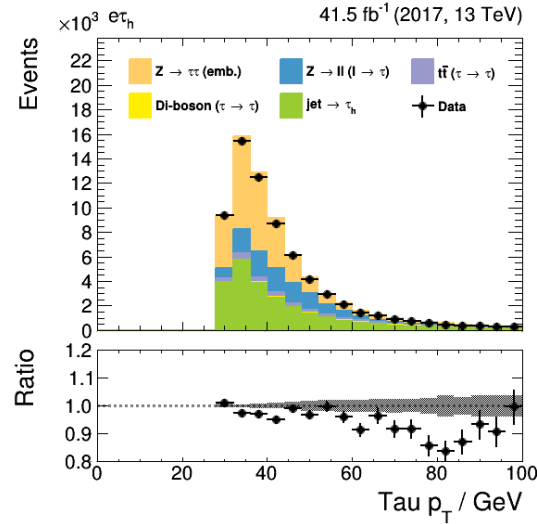
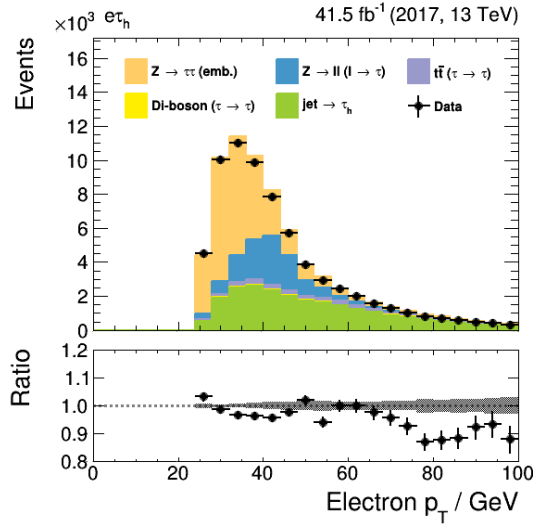
Current work

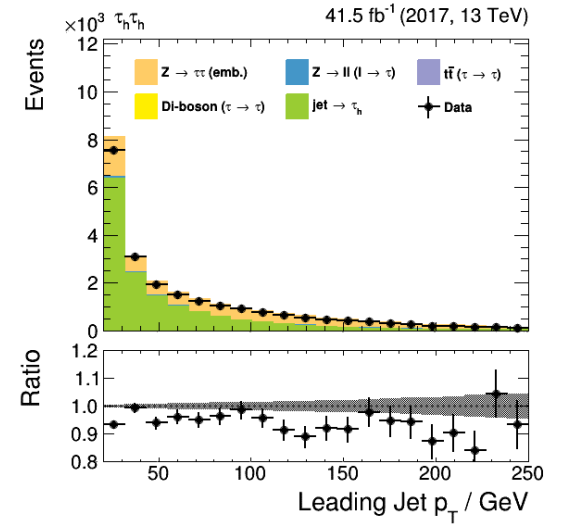
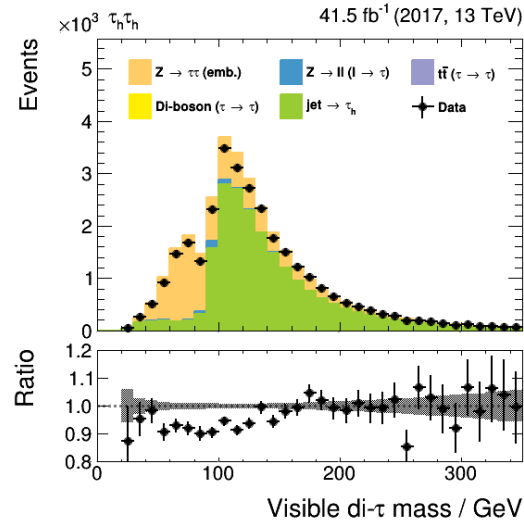
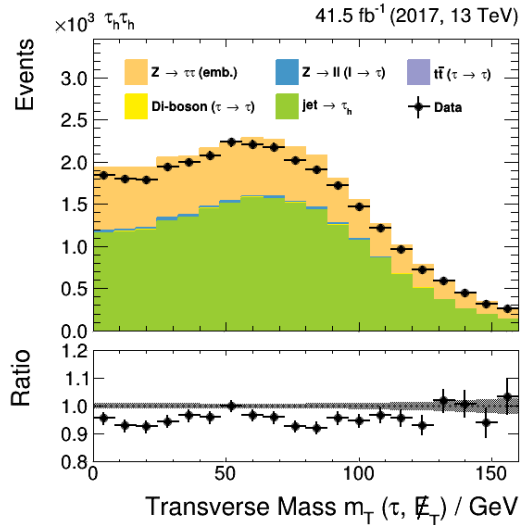
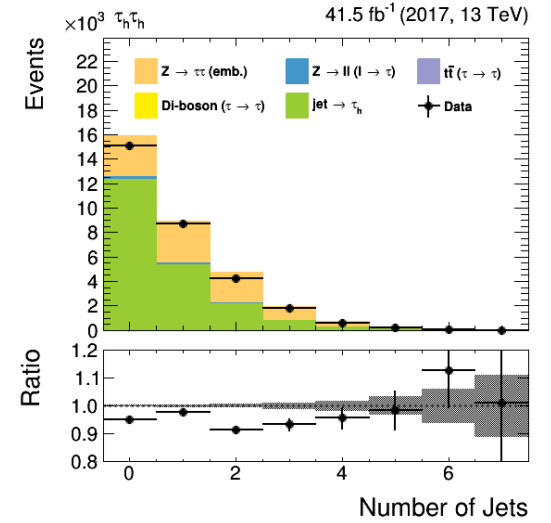
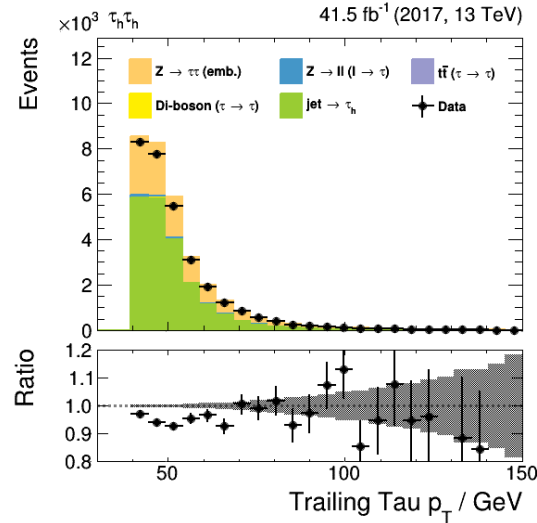
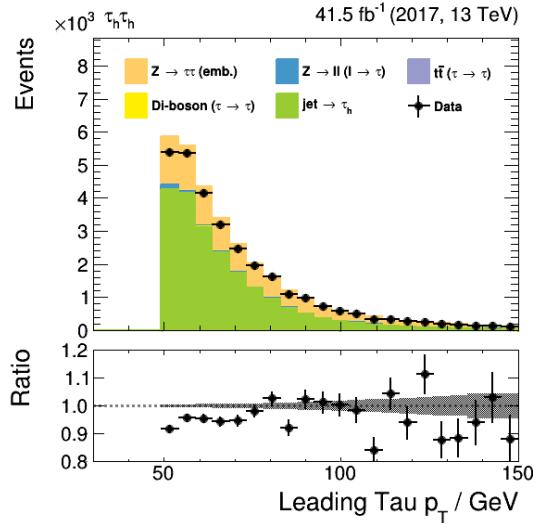
- recently shared IP reconstruction & vertex refitting code
(see Lucas' talk tomorrow for details)
- setup of (2016 +) 2017 data in Aachen framework in $\mu\tau$, $e\tau$, $\tau\tau$
- focus on $\mu + \rho$

Future plans

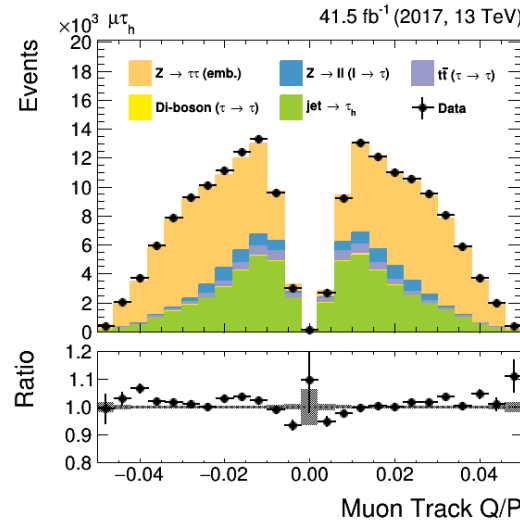
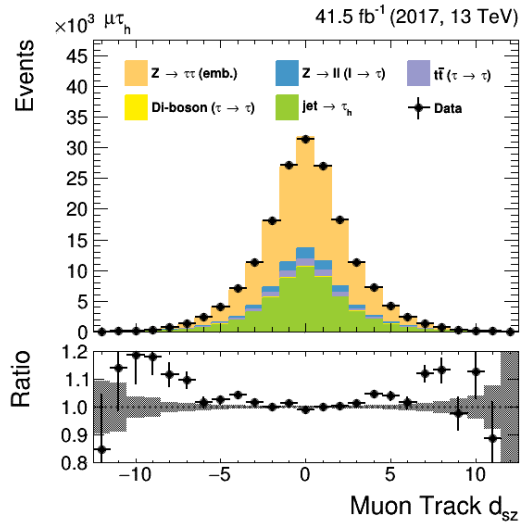
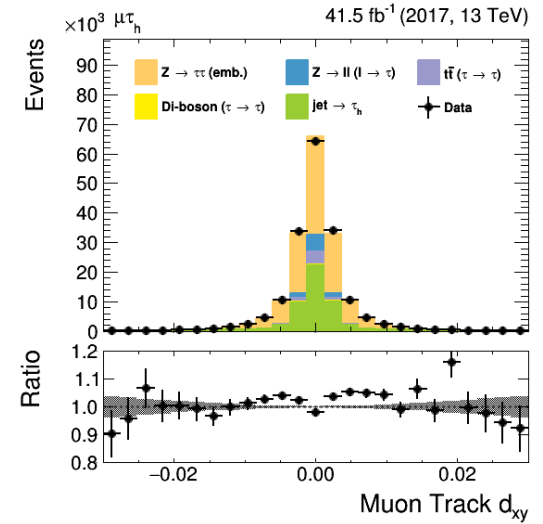
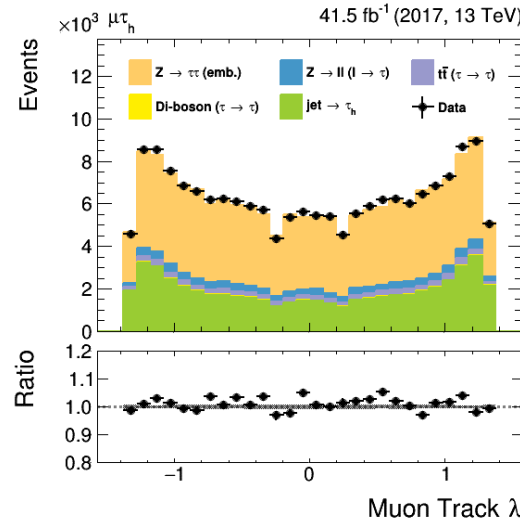
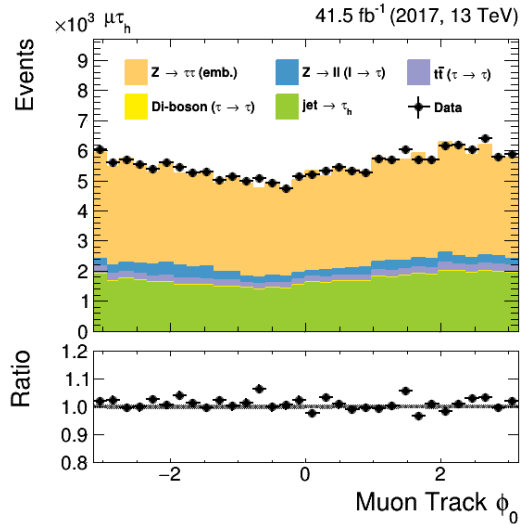
- setup full Run 2 analyses
- finalise combine setup in our framework
- possible track parameter calibration (see following slides)
- study effect of categorisation in IP significance/track related observables





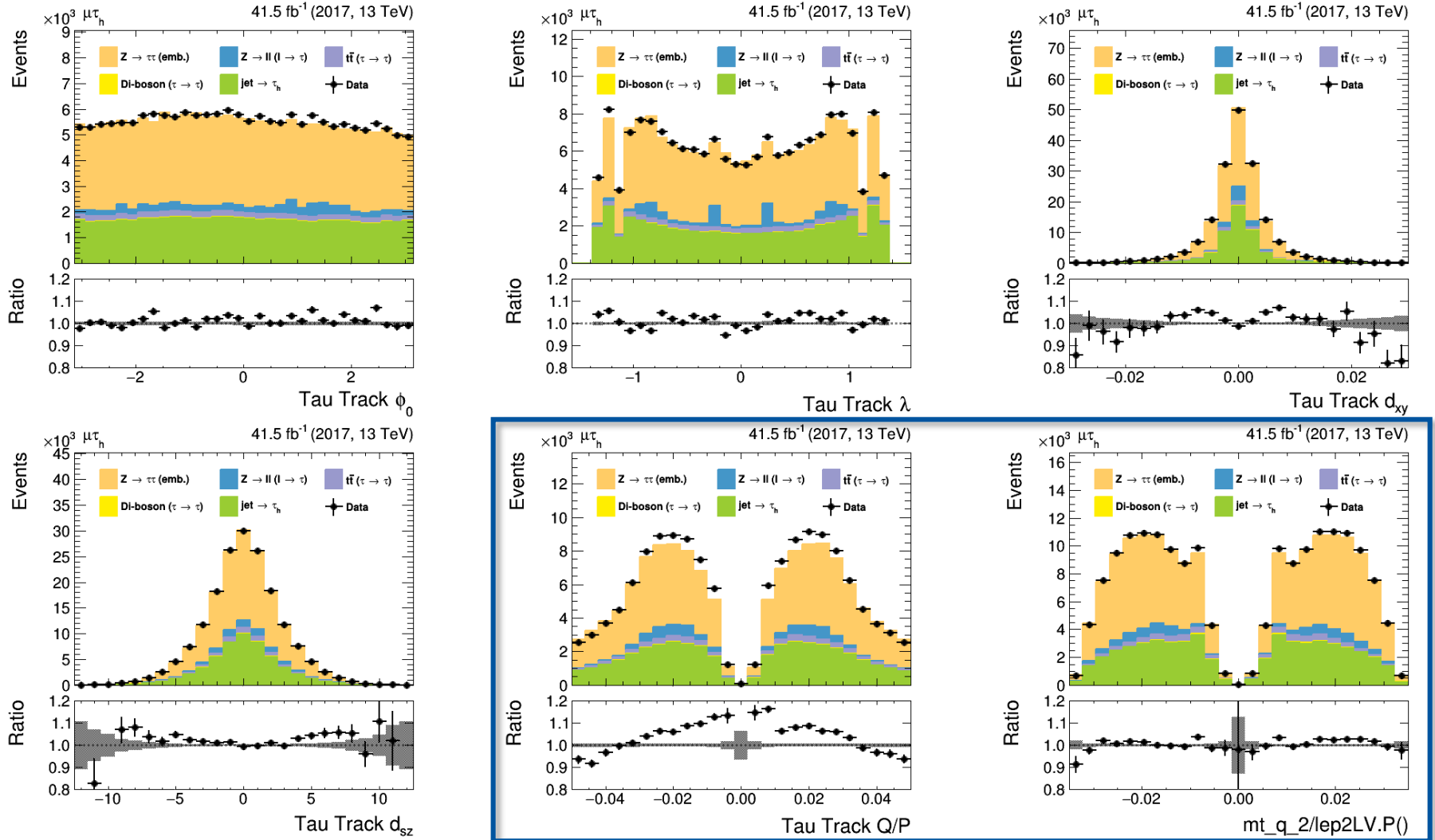


Muon Track Parameters – $\mu\tau$ Final State – with Embedding more plots



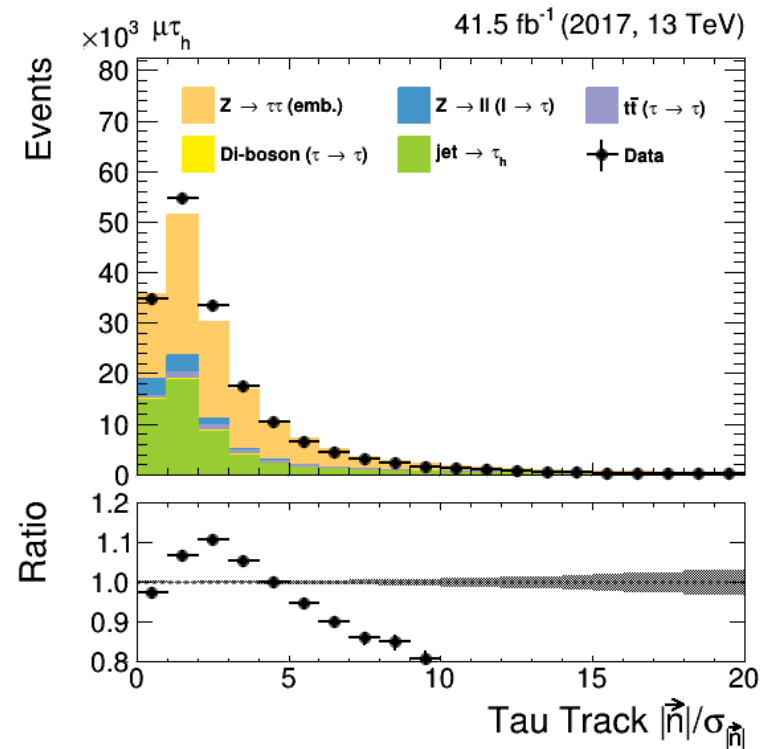
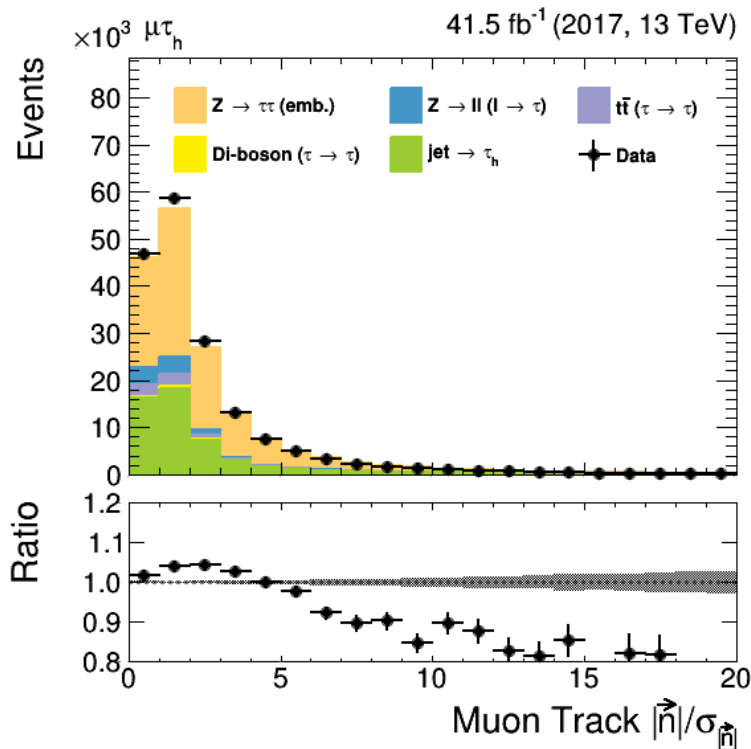
- slight mismodeling of muon d_{xy}
- other track parameters agree well

Tau Track Parameters – $\mu\tau$ Final State – with Embedding



IP Significance – $\mu\tau$ Final State – with Embedding

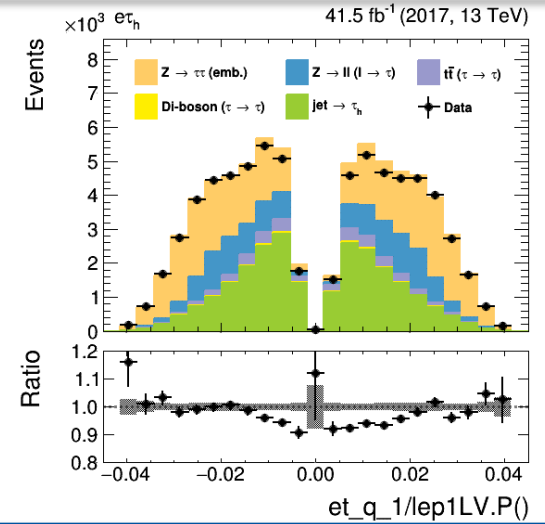
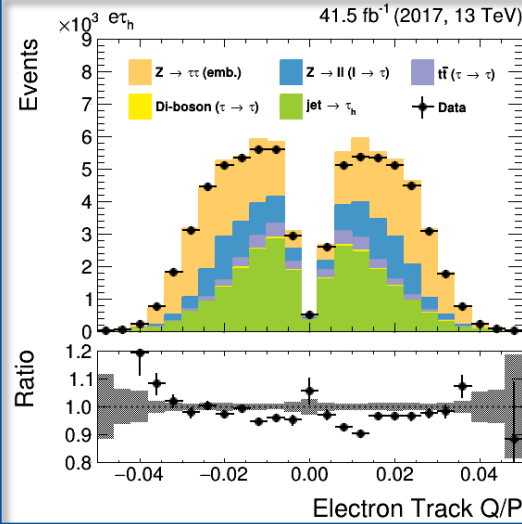
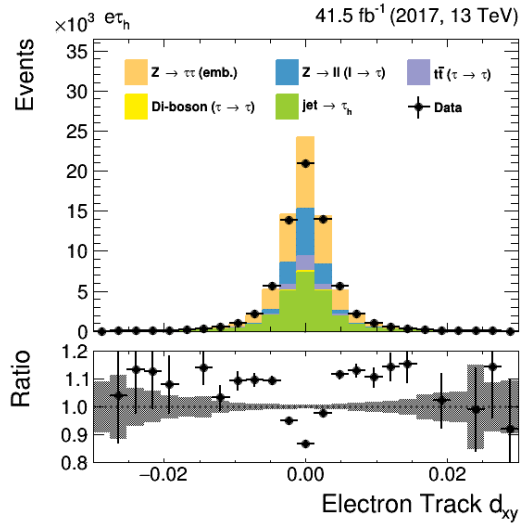
- track parameter mismodeling leads to discrepancies in IP significance
- possible solution: calibration via isomophic mapping



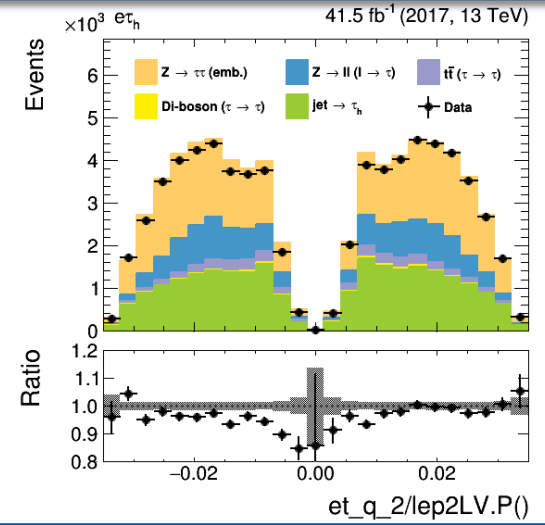
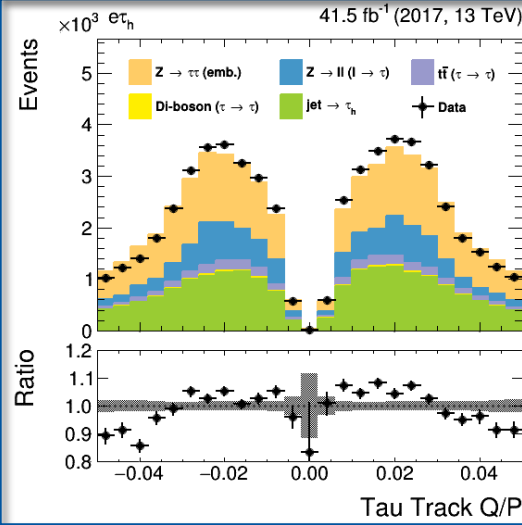
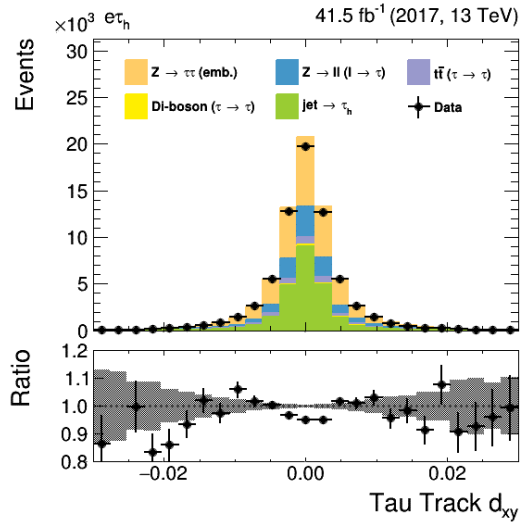
Track Parameters – $e\tau$ Final State – with Embedding

[more plots](#)

e

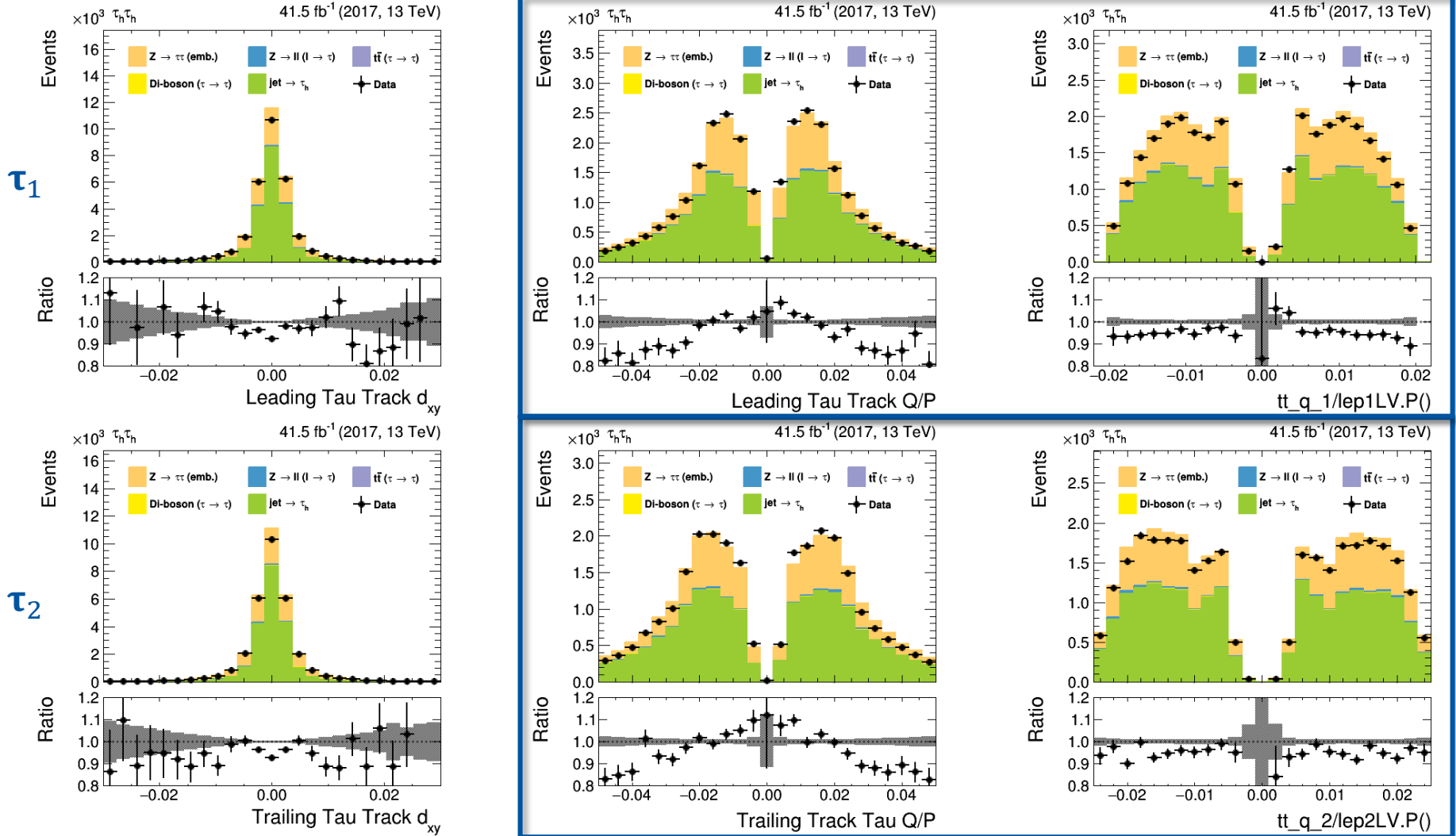


τ



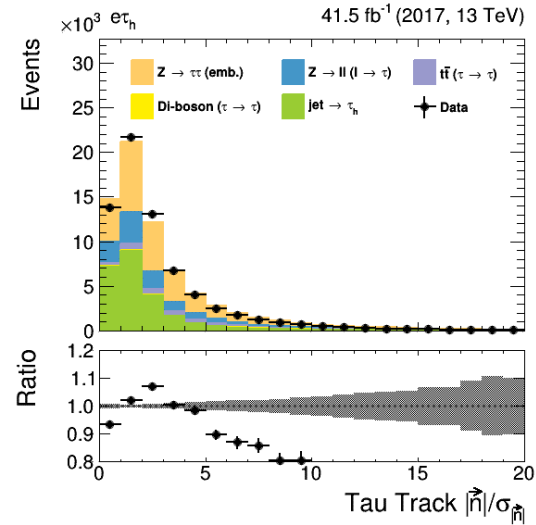
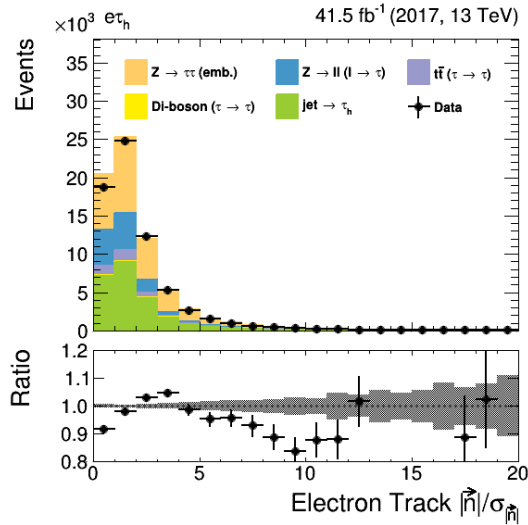
Track Parameters – $\tau\tau$ Final State – with Embedding

[more plots](#)



IP Significance – $e\tau/\tau\tau$ Final State – with Embedding

$e\tau$



$\tau\tau$

