

# Validation



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# Outline

- Validation system for reconstruction
- Python script that reads ROOT files using RDataFrame and then plots them
- Could be run in CI, we keep somewhere some reference events (both simulated and reconstructed) and we compare with the new reconstruction
- Could not depend on ROOT (POD data doesn't need ROOT dictionaries to be read) if needed but probably wherever it's going to run ROOT is going to be installed

# Configuration and plotting

- Using a yaml file, one can specify what to plot, how to plot it

**momentum\_x:**

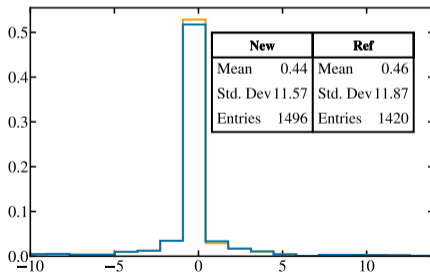
**filename:** Output1/my\_output.root

**var:** MCParticles.momentum.x

**plot:** hist

**reference:** Output2/my\_output.root

**xlim:** [-10, 14]



# Configuration

- Arbitrary functions can be applied to the data, supporting python syntax, maybe ROOT syntax:

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```
mass_squared:  
  filename: Output1/my_output.root  
  var: MCParticles.mass  
  plot: hist  
  function: 'lambda x: x**2'
```

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- Working on arbitrary filters (selection)
- More outputs? Some metrics?