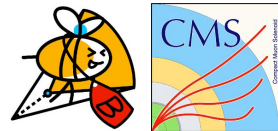# *Short Exercises Preparation Meeting: BTV*

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CMS DAS@Hamburg 2025 Preparation Meeting

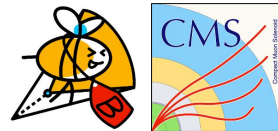# *BTV Short Exercise Materials*

Based on existing material from previous DAS (see e.g. [here])

All presentation and exercise materials are ready:

[Exercise-Slides] [Exercise-Notebooks]

- We want to run interactive exercises with jupyter notebooks.
- Input data and notebooks are stored on CMS EOS BTV group space.

BTV Short Exercise flowchart

00	**Introductory slides** Slides 01 to 11	• Maximum 15 minutes • Introduction of input features, IP, SV • Introduction to flavour tagging algorithms (PNet, UParT) • Inputs of the exercises - NanoAOD
01	**Input features, Jet Flavours** Slides 12 to 16	• Maximum 20 minutes • Plotting input features, tagger discriminant scores • Goal: better algorithms gives better discrimination power, some inputs are more important than other
02	**Performance metrics, ROC curves** Slides 17 to 21	• Maximum 5 minutes - introduction to ROC, historical evolution of tagger performance in BTV • Maximum 20 minutes: ROC plotting exercise • Goal: ROC as performance of taggers, performance changes based on different flavour enriched samples
03	**Data/MC comparison** Slides 22 to 25	• Maximum 20 minutes: exercise • Goal: Data/MC mismatch due to MC mismodelling • Maximum 5 minutes: Explanation of Data/MC mismatch - calibration and requirement of Scale Factors
04	**Calibration and SF derivation, iterative fit method** Slides 26 to 29	• Maximum 2 minutes: describe SFs (WP based and shape based) • Maximum 20 minutes: exercise • Goal: Data/MC agreement post calibration SFs (conclusion ~3 minutes)
05	**General Q&A, Discussions**	• 10 Minutes