XGBoost output, 2HDMa a200 H600 tb20 D10 uu dataset, uscaled validation data Background Signal  $10^{4}$ 10<sup>3</sup> Events 10<sup>2</sup>  $10^1$ 10<sup>0</sup> 0.4 0.2 0.0 0.6 8.0 1.0 XGBoost output