XGBoost output, 2HDMa a100 H1500 tb1 uu dataset, uscaled validation data Background Signal  $10^{6}$ 10<sup>5</sup>  $10^{4}$ Events 10<sup>3</sup> 10<sup>2</sup>  $10^{1}$ 10° 0.4 0.2 0.0 0.6 8.0 1.0

XGBoost output