XGBoost output, 2HDMa a200 H500 tb1 D10 uu dataset, uscaled validation data Background Signal  $10^{4}$ 10<sup>3</sup> Events 10<sup>2</sup>  $10^1$  $10^{0}$ 0.4 0.2 8.0 0.0 0.6 1.0 XGBoost output