Cut efficiencies and optimal cut value Signal purity Signal efficiency Signal efficiency*purity **Background efficiency** S/√S+B 20 1 8.0 14 0.6 10 0.4 6 0.2 For 500 signal and 1000 background events the maximum S/\S+B is 18.3282 when cutting at 0.5840 0 0.2 0.3 0.5 0.9 0.1 0.4 0.6 0.7 8.0

Efficiency (Purity)

Cut value applied on MLPBNN output