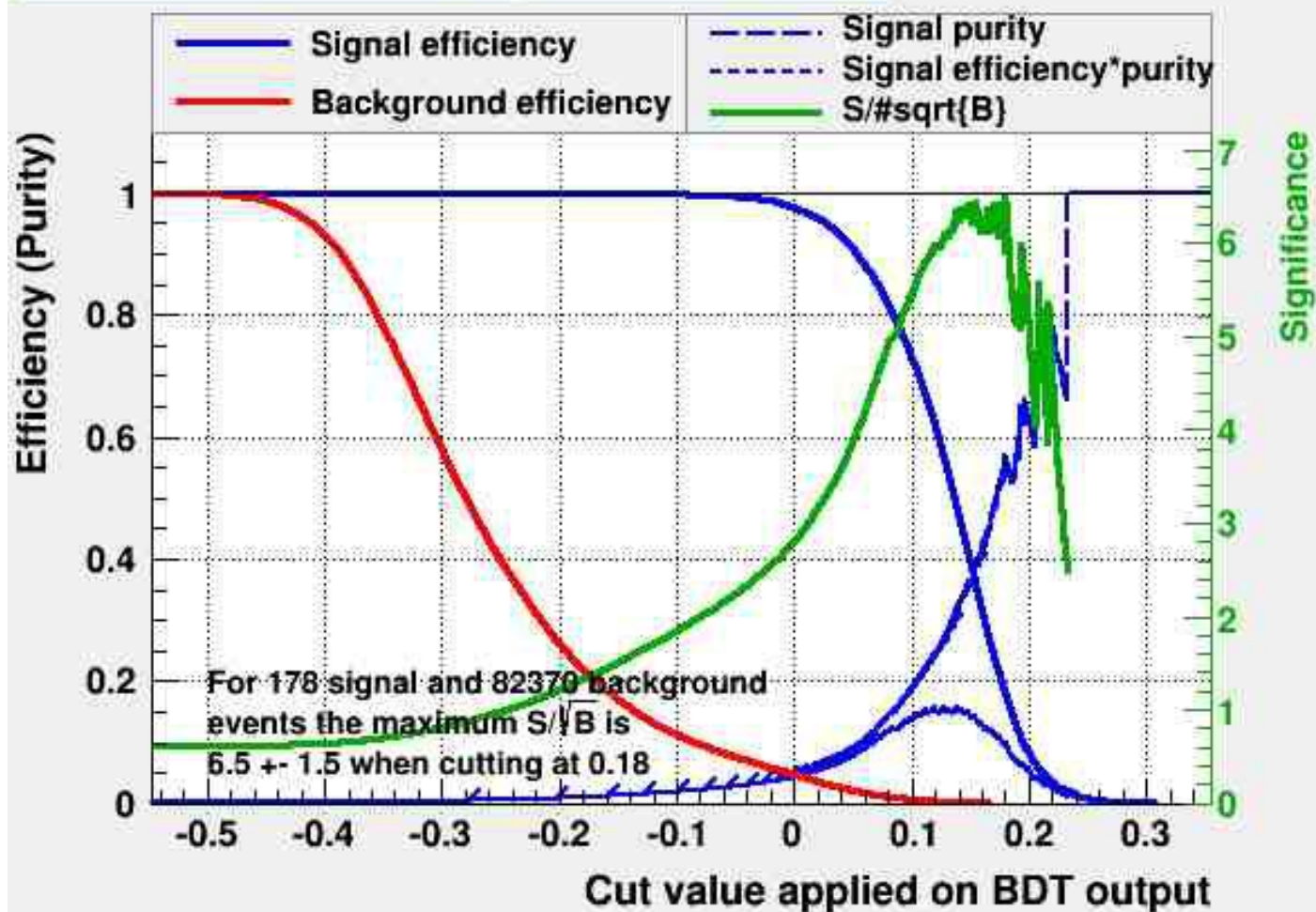# Updata on 2HDM analysis
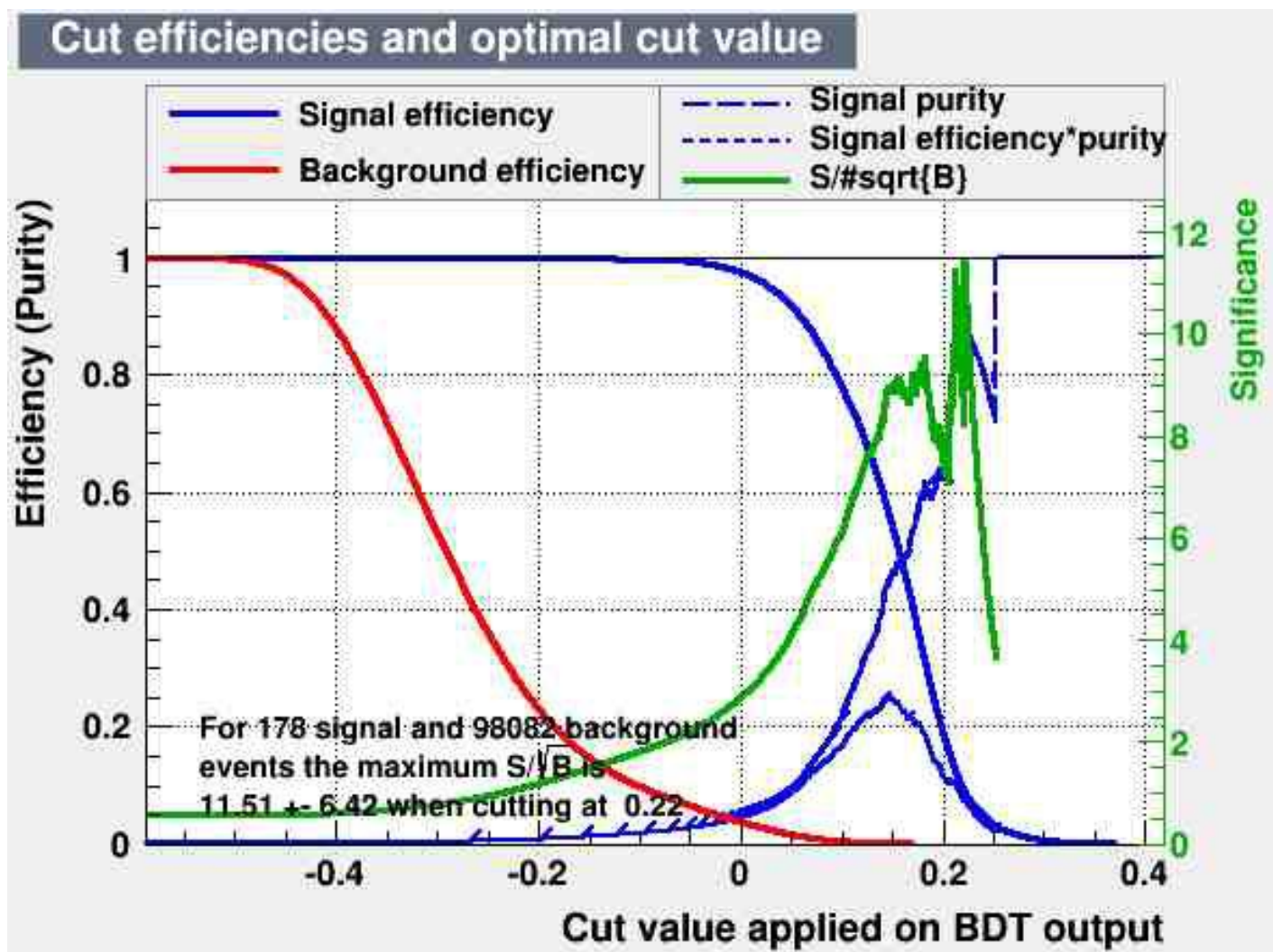
Maosen Zhou
14/05/2014

input variables

- maa,mbb,delRa1b1,delRa1b0,delRa0b0,delRa0b0,delR aa,delRbb,PTa1st,PTa2nd,PTb1st,PTb2nd

  to save statistics,discard mbbaa

- until now,12 million (after matching)more bg samples are generated ,plus 6.5 million before →18.5 million bg samples for analysis

  almost 8 million still running

- Nevents after events selection for BDT
  › testing: 10 thousand for sig, 50 thousand for bg

  › training:10 thousand for sig, 230 thousand for bg

 slection efficiency：18% for sig, 1.5% for bg
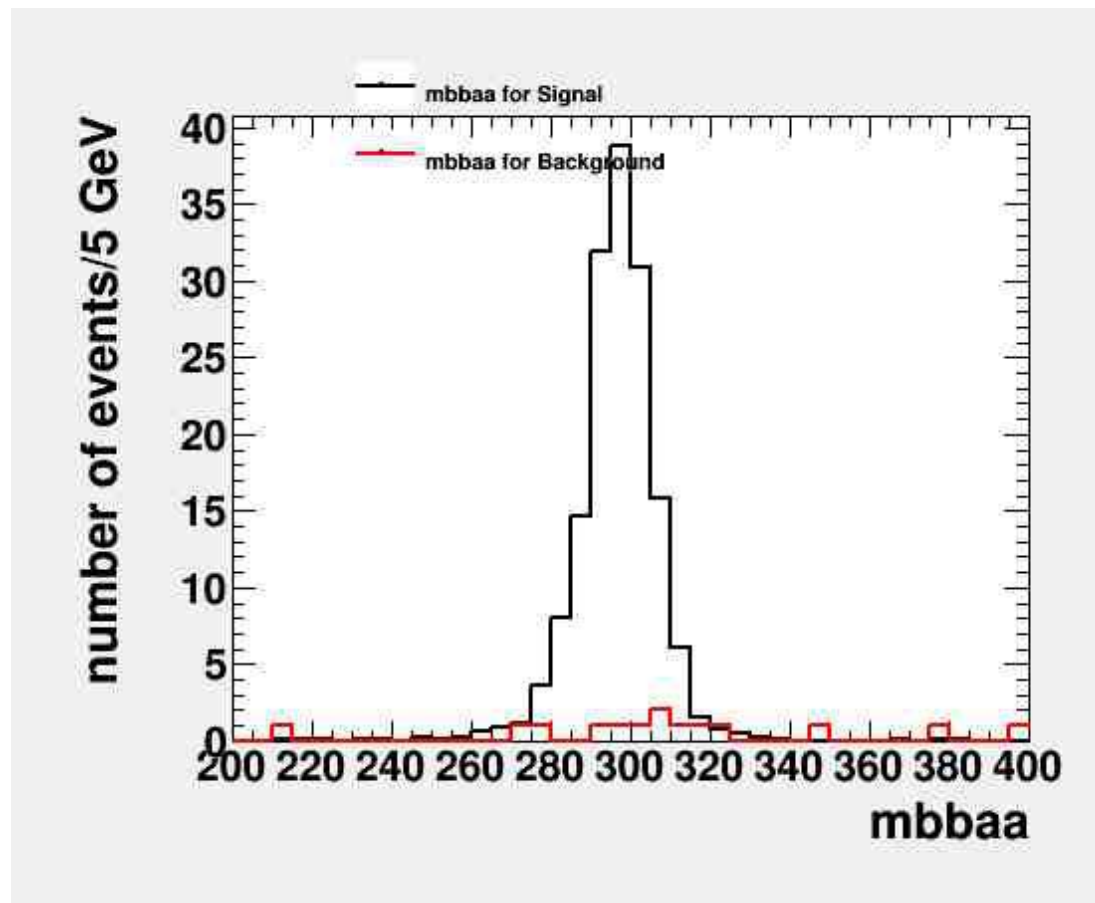
Cut efficiencies and optimal cut value

vs former result

Cut efficiencies and optimal cut value

For 178 signal and 98082 background events the maximum S/√B is 11.51 +- 6.42 when cutting at 0.22
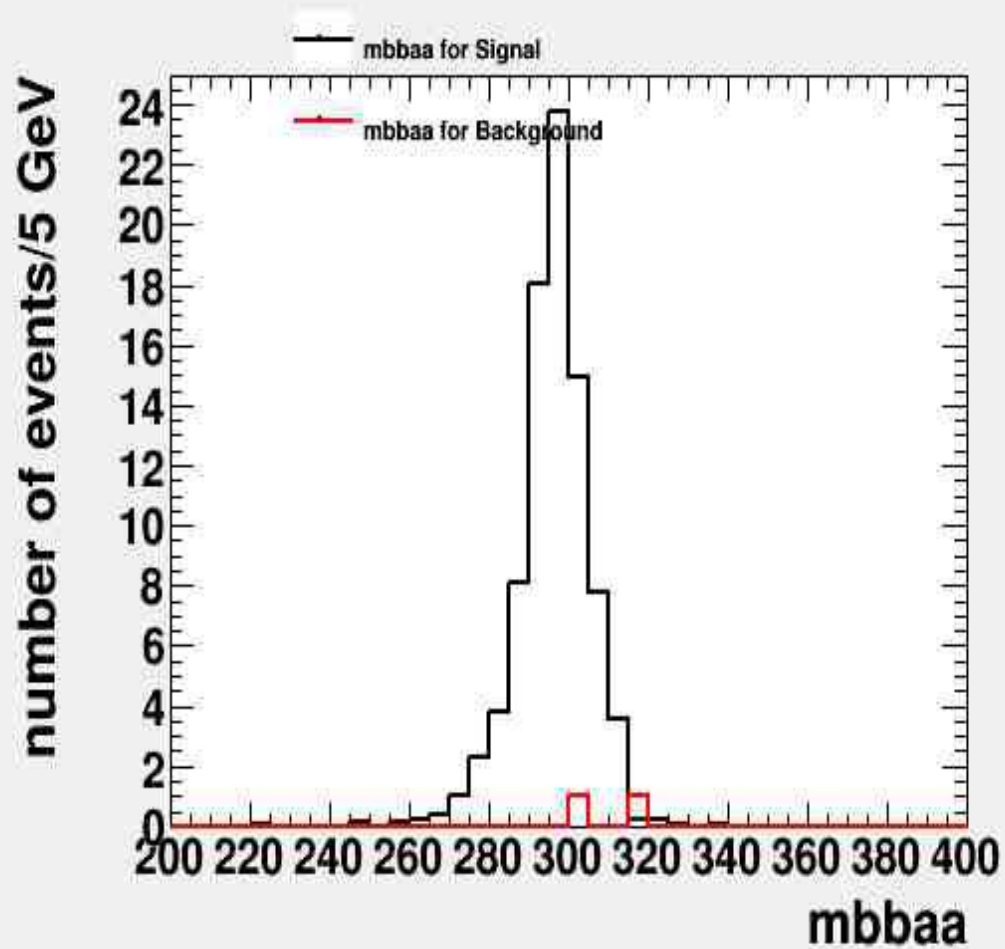
BDT application:plot testing

- after BDT cuts , 18% sig and 14 events of 50 thousand for bg left

vs former

- 2 events

sth to report

- graduation paper: draft version is almost done
- maybe leave on this sunday?how do you think?