

Progress in this week

CMOS pixel sensor

-- Preparation of the firmware for “B” matrix

- After code modification, only a simulation was performed (seems fine).



the next step is to download a bit-file on the KC705 and take data to confirm.

- Major change is the number of row (A:48 --> B:96)

I was aiming to structure it so that it can connect both “A” & “B” with same firmware



due to the limited time & a trouble on my PC

Current (still test version) version can connect only “B” matrix.

CEPC Higgs- \rightarrow ZZ* analysis

- Run the background samples : total 44 individual samples
- comparison of the signal & the backgrounds for the first time
(Invariant mass from $Z\rightarrow\mu+\mu^-$, after all of the cuts , is shown in next page)



the S/B ratio is close to 1 (or 100%) where the number in the reference is \sim 10% or 8%. Need to check several things :

Sample directory itself, number of events to be analyzed, other histograms(properties), FSR/ISR, muon identification process, and “background” from other Higgs channels as well.

Invariant mass of dimuon after all of cuts are applied

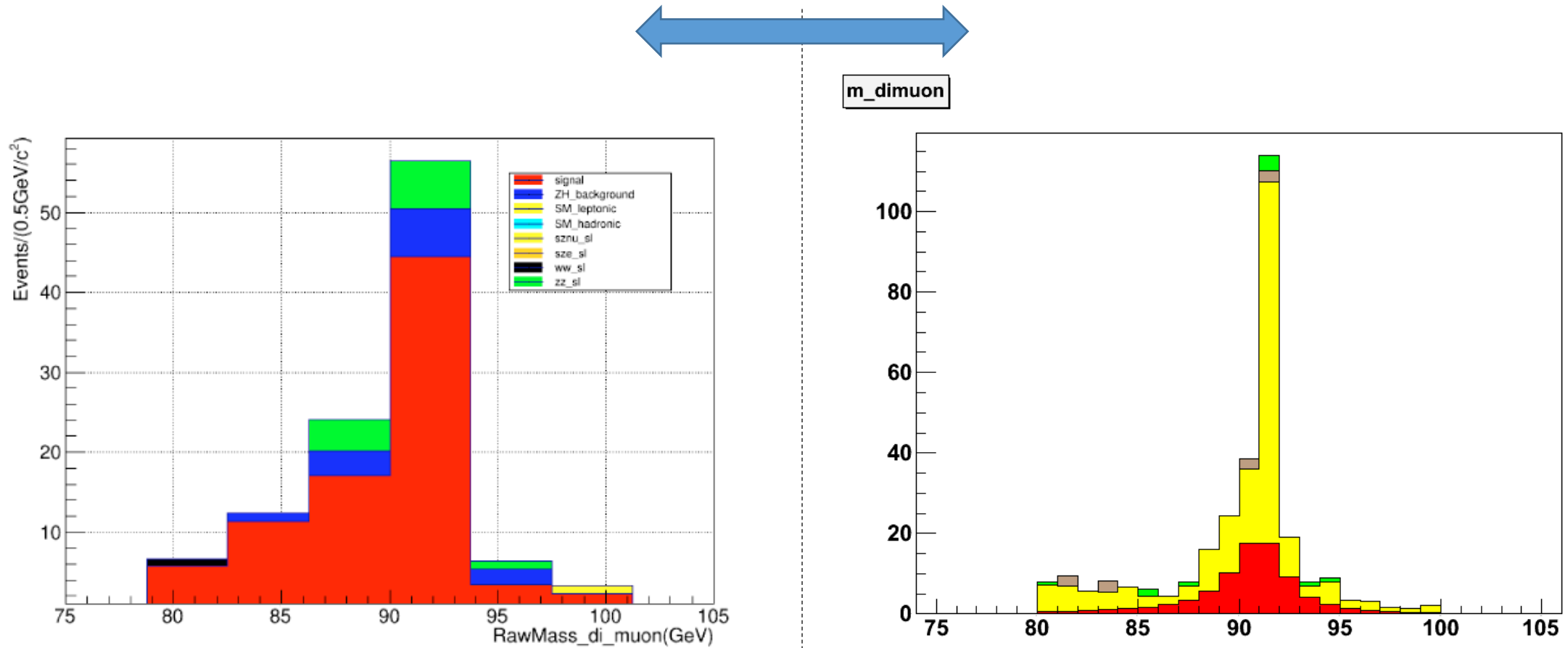


图 4.10 经事例选择后的信号事例和本底事例在正负缪子不变质量谱上的分布

from master thesis of 魏彧骞
under "CEPC_V1" configuration

under "CEPC_V4" configuration