

(a)

$$P_D(\%) = S'/S \times 100\% \quad P_F(\%) = B'/B \times 100\%$$



(b)

(c)

Input rate (LHC)

noringer chain (2017)

ringer chain (2017)

ringer chain (2016)
development

Output rate (L1Calo)

Cut-based

Fast Calorimeter Reconstruction
(Rings and Shower Shape Quantities)Calorimeter
Pre-selection (FastCalo)NeuralRinger
(ensemble of NNs)NeuralRinger
(ensemble of NNs)

Output rate (FastCalo)

Fast

Fast Track Reconstruction

Fast Electron Reconstruction

Efficient Electron
Pre-selection

Cut-based

Cut-based

Output rate (FastElectron)

 E_T CutPrecise Calorimeter
Reconstruction

Energy Calibration

Calibrated E_T
Selection E_T Cut E_T Cut

Output rate (HLTCalo)

Precision

Precise Electron Reconstruction

Precise Electron
Selection

Likelihood

Likelihood

Likelihood
(As similar as possible offline)

Output rate (HLT)

