Dimuon invariant mass distribution

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JSON file

Cert_271036-274240_13TeV_PromptReco_Collisions16_JSON.txt
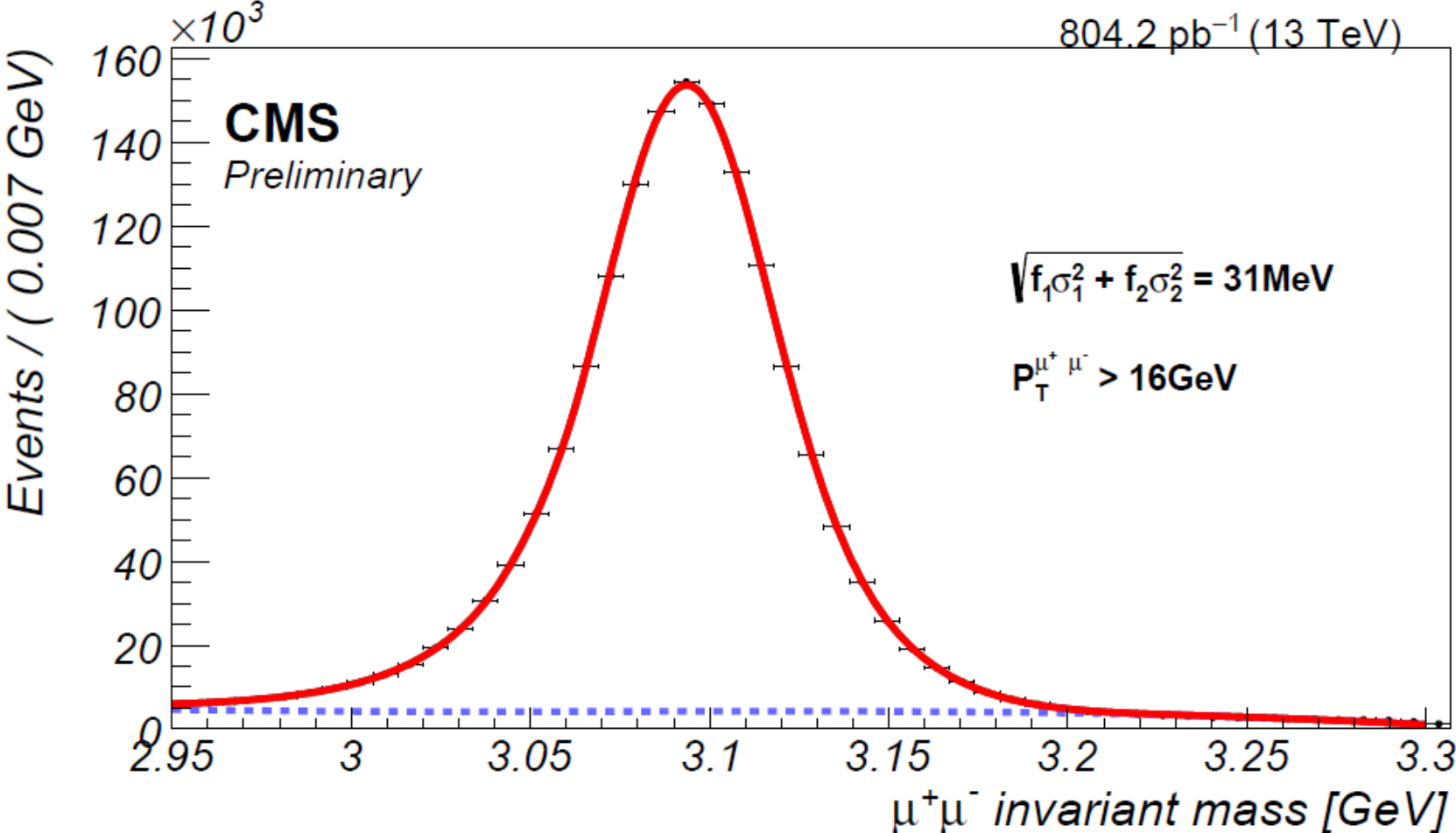
Offline Selection(muon)

Singel muon $P_t > 2$

Muon ID : soft

TrackType: INNER

Dimuon invariant mass of J/ψ

- Dataset: Charmonium – Prompt_v2

- Selection: 2 muons passing Soft ID

- Trigger Conditions: opposite-sign muon pair with invariant mass in range 2.95—3.3 GeV, dimuon $p_T > 16\ GeV$

- Fit Method

  Mass PDF: double Crystal Ball with common mean, n and alpha parameters

  Background PDF: Chebychev polynomial series of order 2

- Quoted resolution: weighted quadrature sum of the two CB sigmas

Dimuon invariant mass of J/ψ

Dimuon invariant mass of J/ψ

- Dataset: Charmonium – Prompt_v2

- Selection: 2 muons passing Soft ID

- Trigger Conditions: opposite-sign muon pair with invariant mass in range

  2.95—3.3 GeV, dimuon $p_T > 10\ GeV$, $|y^{\mu\mu}|$ <1.25

- Fit Method

  Mass PDF: double Crystal Ball with common mean, n and alpha parameters

  Background PDF: Chebychev polynomial series of order 2

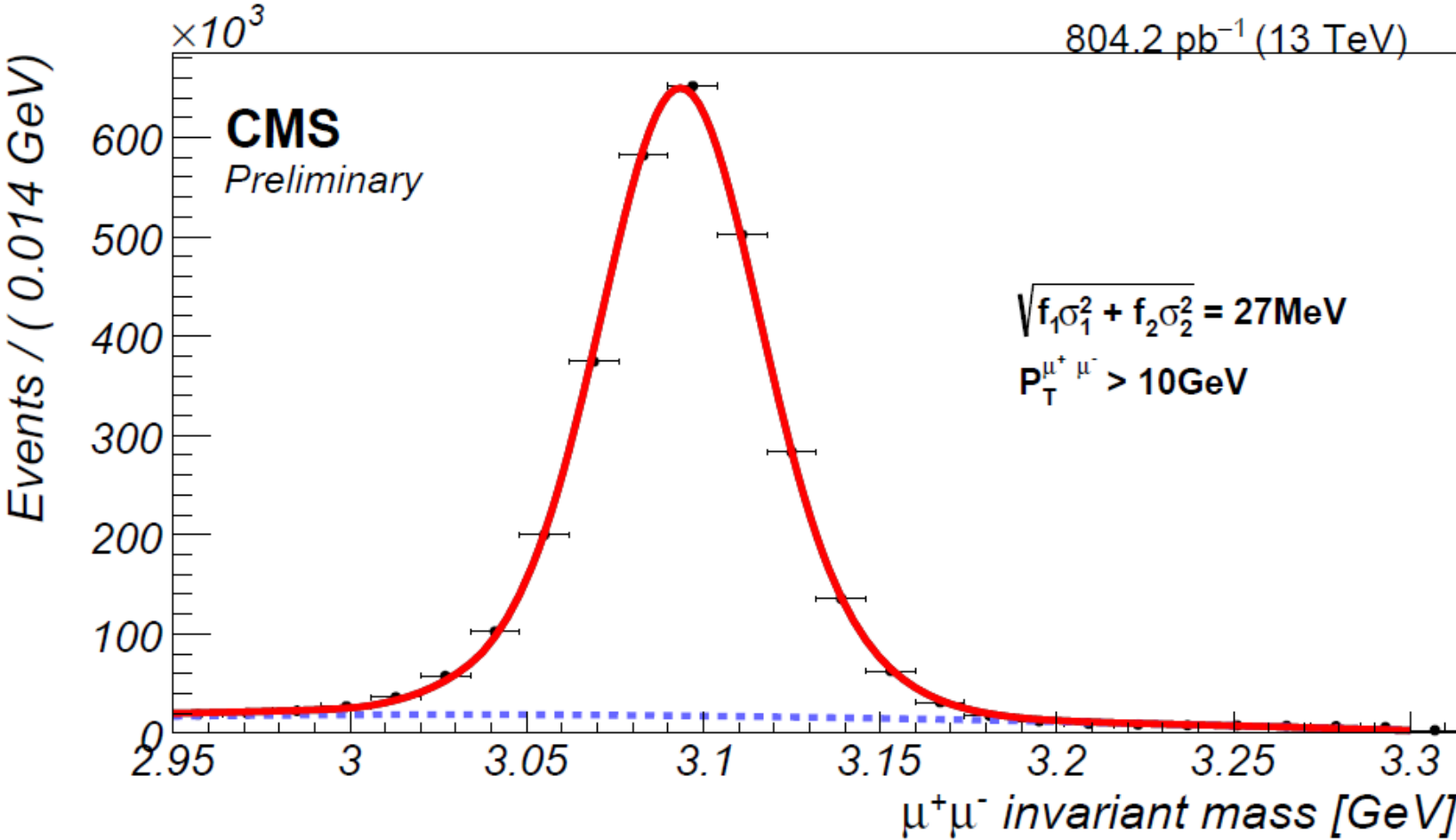- Quoted resolution: weighted quadrature sum of the two CB sigmas

Dimuon invariant mass of J/ψ

Dimuon invariant mass of J/ψ

- Dataset: Charmonium – Prompt_v2

- Selection: 2 muons passing Soft ID, $|\eta^{\mu}|$ < 0.5

- Trigger Conditions: opposite-sign muon pair with invariant mass in range

  2.95—3.3 GeV, dimuon $p_T > 10\ GeV$, $|y^{\mu\mu}|$ <1.25

- Fit Method

  Mass PDF: double Crystal Ball with common mean, n and alpha parameters

  Background PDF: Chebychev polynomial series of order 2

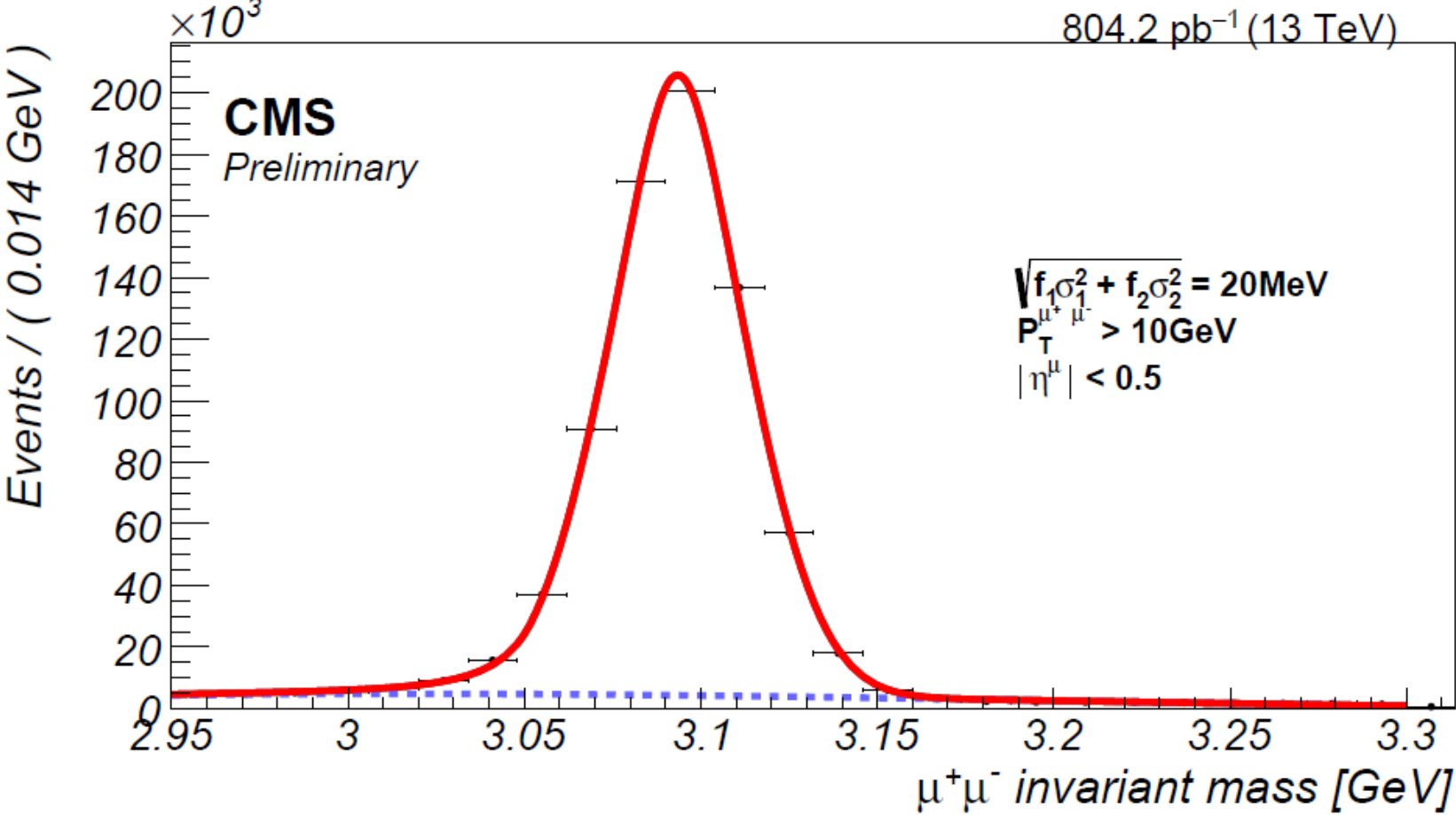- Quoted resolution: weighted quadrature sum of the two CB sigmas
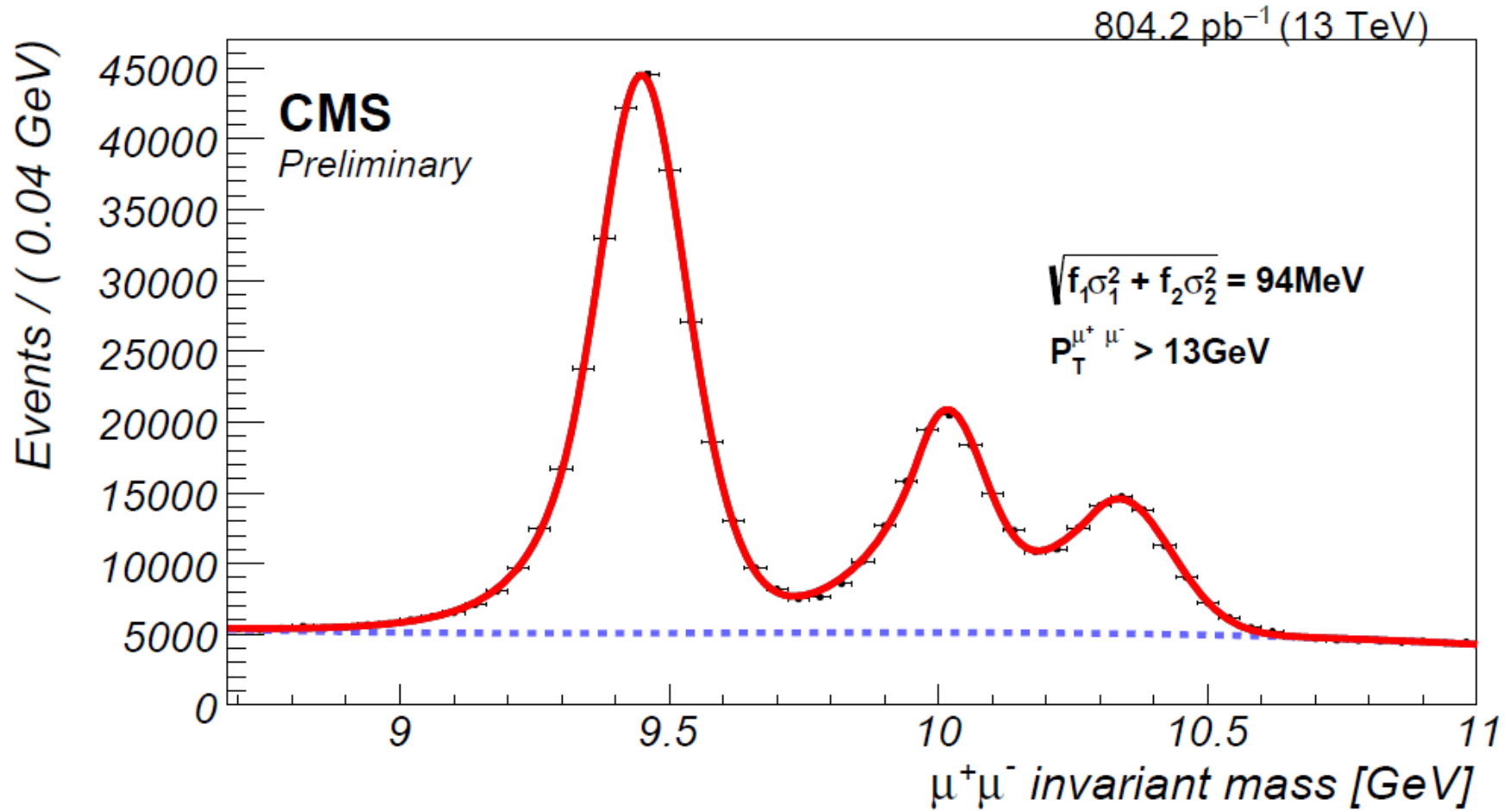
Dimuon invariant mass of J/ψ

Dimuon invariant mass of Y(nS)

- Dataset: MuOnia – Prompt_v2

- Selection: 2 muons passing Soft ID

- Trigger Conditions: opposite-sign muon pair with invariant mass in range

  8.5—11. GeV, dimuon $p_T > 13 \; GeV$

- Fit Method

  Y(1S) Mass PDF: double Crystal Ball with common mean, n and alpha

parameters

  Y(2S) Mass PDF: Crystal Ball

  Y(3S) Mass PDF: Crystal Ball

  Background PDF: Chebychev polynomial series of order 2

- Quoted resolution: weighted quadrature sum of the two CB sigmas

Dimuon invariant mass of Y(nS)

804.2 pb^{-1} (13 TeV)

CMS
Preliminary

$\sqrt{f_1\sigma_1^2 + f_2\sigma_2^2}$ = 94MeV

$P_T^{\mu^+\mu^-}$ > 13GeV

Dimuon invariant mass of Y(nS)

- Dataset: MuOnia – Prompt_v2

- Selection: 2 muons passing Soft ID

- Trigger Conditions: opposite-sign muon pair with invariant mass in range 8.5—11. GeV, dimuon $p_T > 8\ GeV$, $|y^{\mu\mu}| <1.25$

- Fit Method

  Y(1S) Mass PDF: double Crystal Ball with common mean, n and alpha parameters

  Y(2S) Mass PDF: Crystal Ball

  Y(3S) Mass PDF: Crystal Ball

  Background PDF: Chebychev polynomial series of order 2

- Quoted resolution: weighted quadrature sum of the two CB sigmas
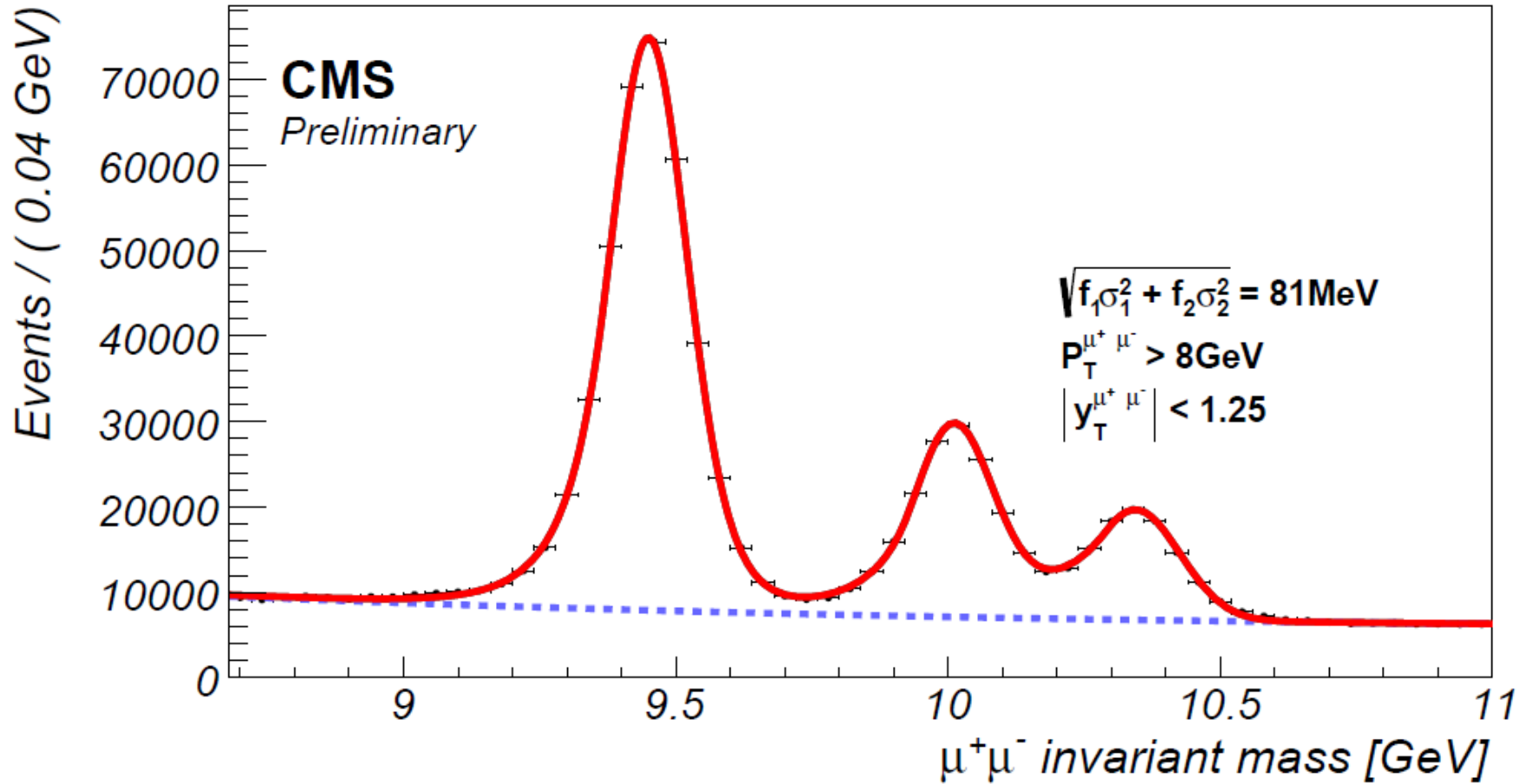
Dimuon invariant mass of Y(nS)

804.2 pb^{-1} (13 TeV)

CMS
Preliminary

$\sqrt{f_1\sigma_1^2 + f_2\sigma_2^2} = 81\text{MeV}$

$P_T^{\mu^+\mu^-} > 8\text{GeV}$

$\left|y_T^{\mu^+\mu^-}\right| < 1.25$

Events / (0.04 GeV)

$\mu^+\mu^-$ *invariant mass* [GeV]

Dimuon invariant mass of Y(nS)

- Dataset: MuOnia – Prompt_v2

- Selection: 2 muons passing Soft ID, $|\eta^{\mu}| < 0.9$

- Trigger Conditions: opposite-sign muon pair with invariant mass in range 8.5—11. GeV, dimuon $p_T > 8\ GeV$, $|y^{\mu\mu}| < 1.25$

- Fit Method

   Y(1S) Mass PDF: double Crystal Ball with common mean, n and alpha

parameters

   Y(2S) Mass PDF: Crystal Ball

   Y(3S) Mass PDF: Crystal Ball

   Background PDF: Chebychev polynomial series of order 2

- Quoted resolution: weighted quadrature sum of the two CB sigmas
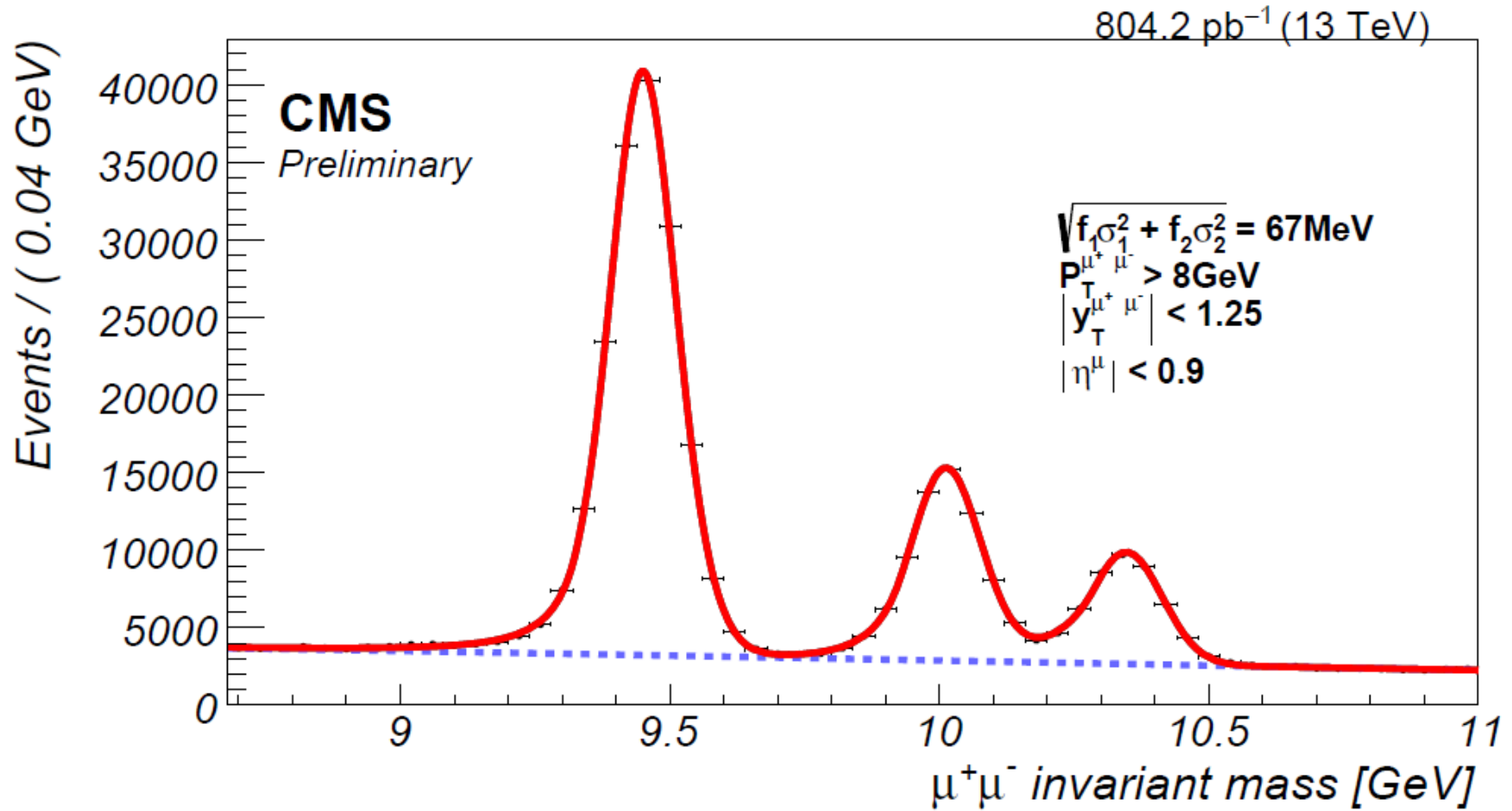
Dimuon invariant mass of Y(nS)

804.2 pb^{-1} (13 TeV)

CMS
Preliminary

$\sqrt{f_1\sigma_1^2 + f_2\sigma_2^2} = 67$MeV
$P_T^{\mu^+\mu^-} > 8$GeV
$\left|y_T^{\mu^+\mu^-}\right| < 1.25$
$|\eta^{\mu}| < 0.9$

Thank you for your attention!