



International Belle II Masterclass

2024 March 26th - Pisa



UNIVERSITÀ DI PISA

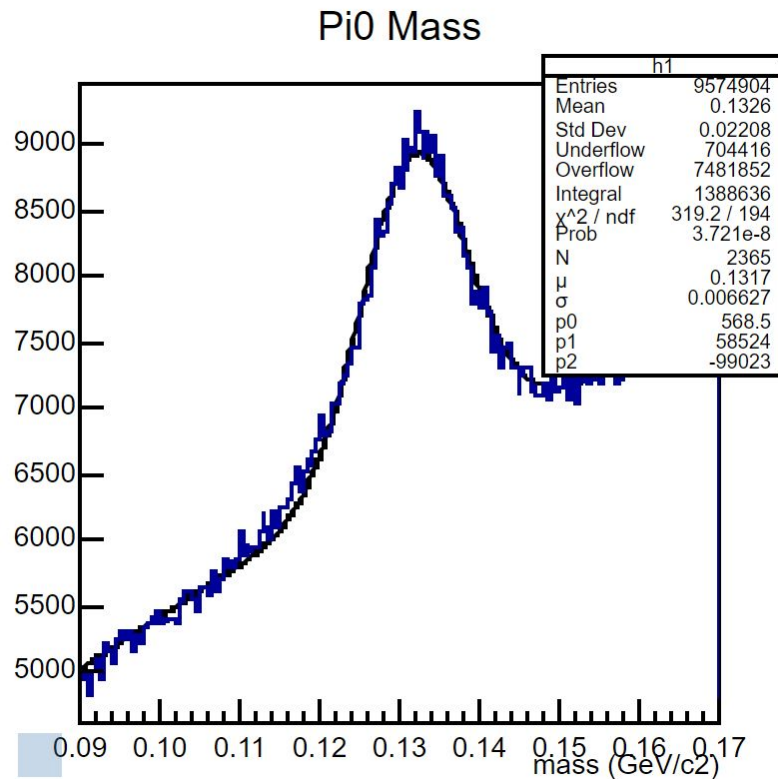


Mission 3 - $\pi^0 \rightarrow \gamma\gamma$

Reconstructed π^0 combining two photons.

The reconstructed mass of the π^0 is **0.132 GeV/c²** and the width is **6.6 MeV/c²**.

The background was fitted with a **second order polynomial function**.

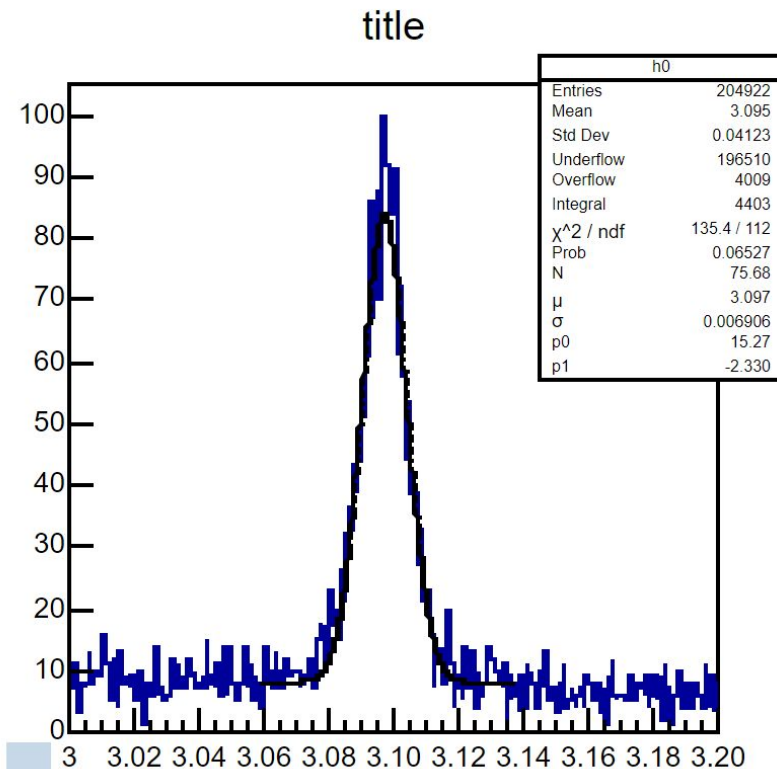




Mission 6 - $J/\psi \rightarrow \mu^+ \mu^-$

The reconstructed mass of the J/ψ is **3.097 GeV/c²**
and the width is **6.9 MeV/c²**.

The background was fitted with a **first order polynomial function**.





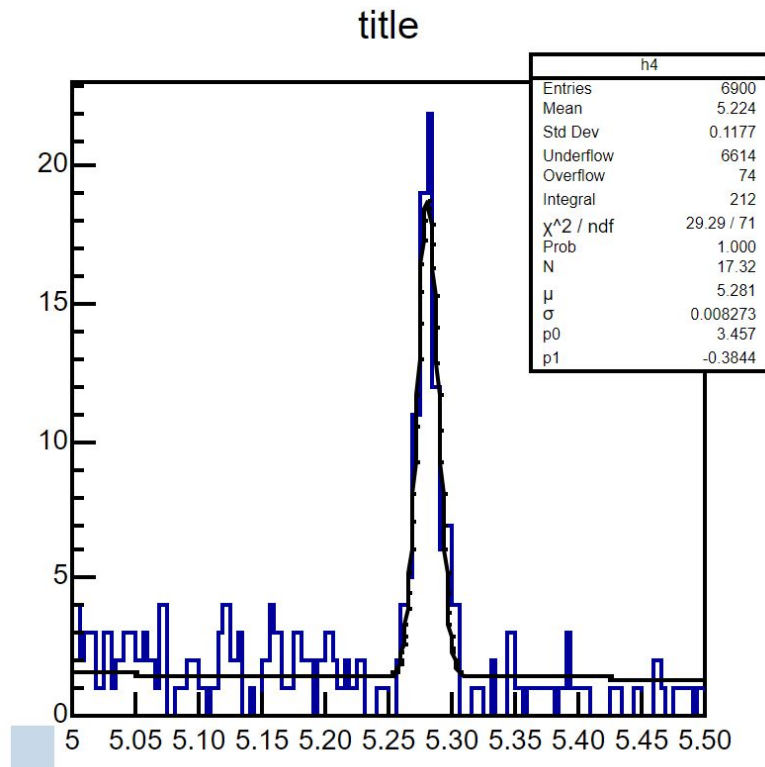
Mission 8 - $B^\pm \rightarrow J/\psi K^\pm$, $J/\psi \rightarrow \mu^+ \mu^-$

We reconstruct B^+ to J/ψ and charged Kaon

The reconstructed mass of the B is

5.281 GeV/c²

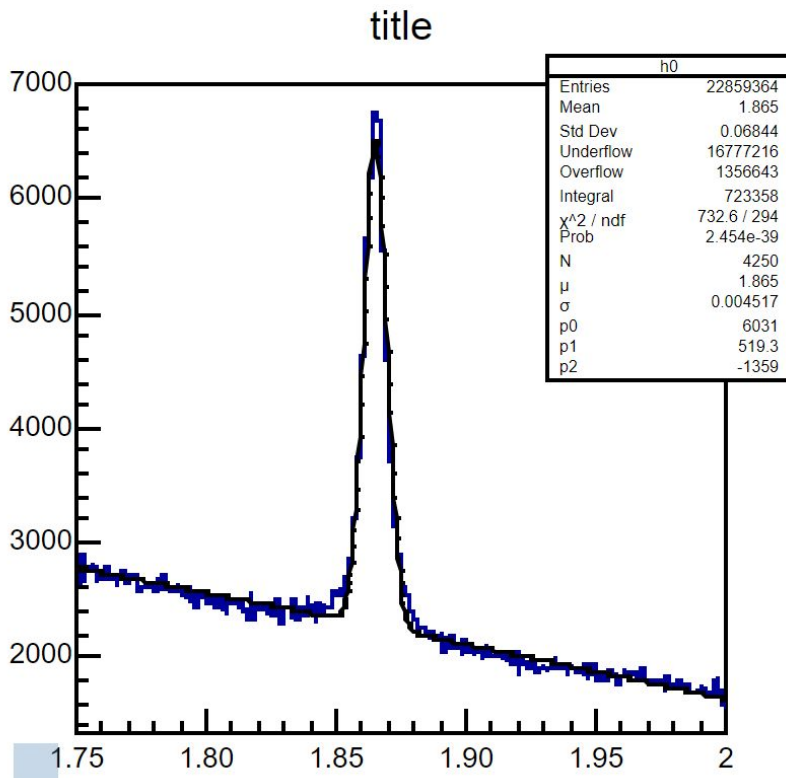
and the width is **8.2 MeV/c²**.



Mission 7 - $D^0 \rightarrow K^- \pi^+$

We reconstruct D^0 to K^- and π^+

The reconstructed mass of the D is
1.865 GeV/c²
 and the width is **4.5 MeV/c²**.

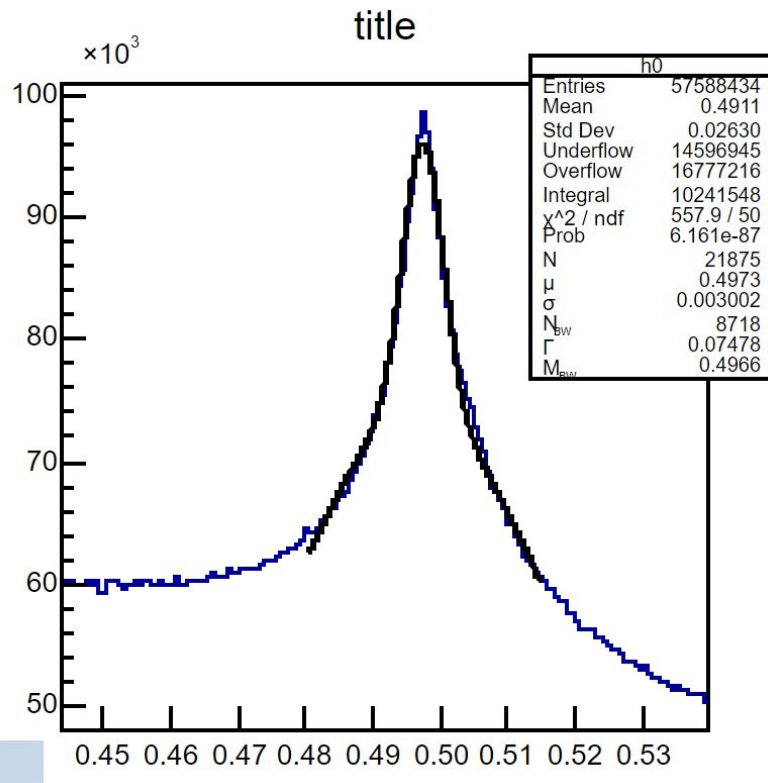




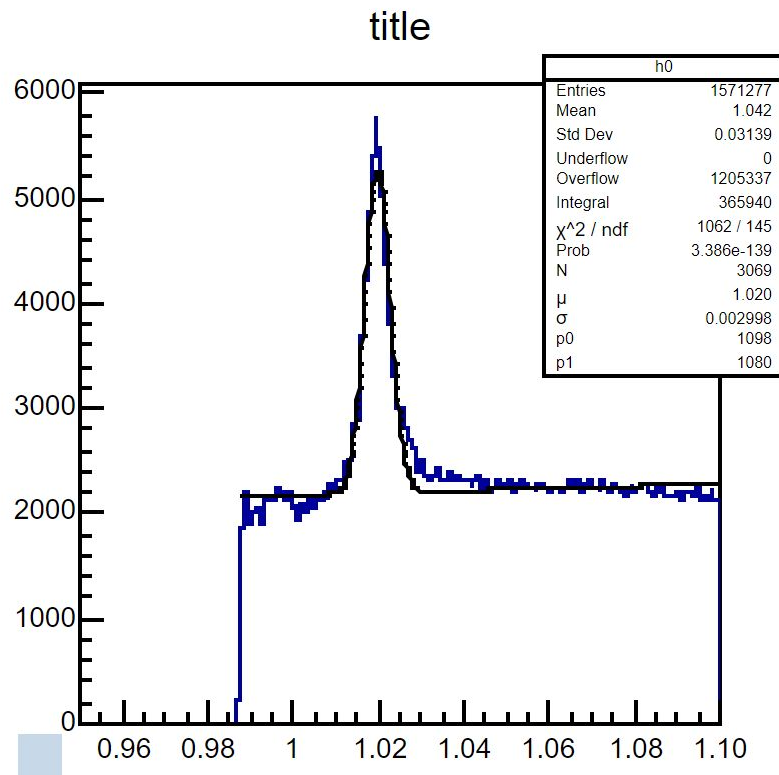
Back-up



Mission 4 - $K_S^0 \rightarrow \pi^+ \pi^-$



Mission 5 - $\phi \rightarrow K^+ K^-$



Mission 9 - $D^* \rightarrow D^0 \pi^+$, $D^0 \rightarrow K^- \pi^+$

