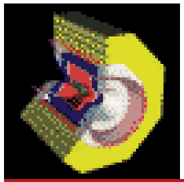

$D_S^{*+} \to D_S^+ e^+ e^-$

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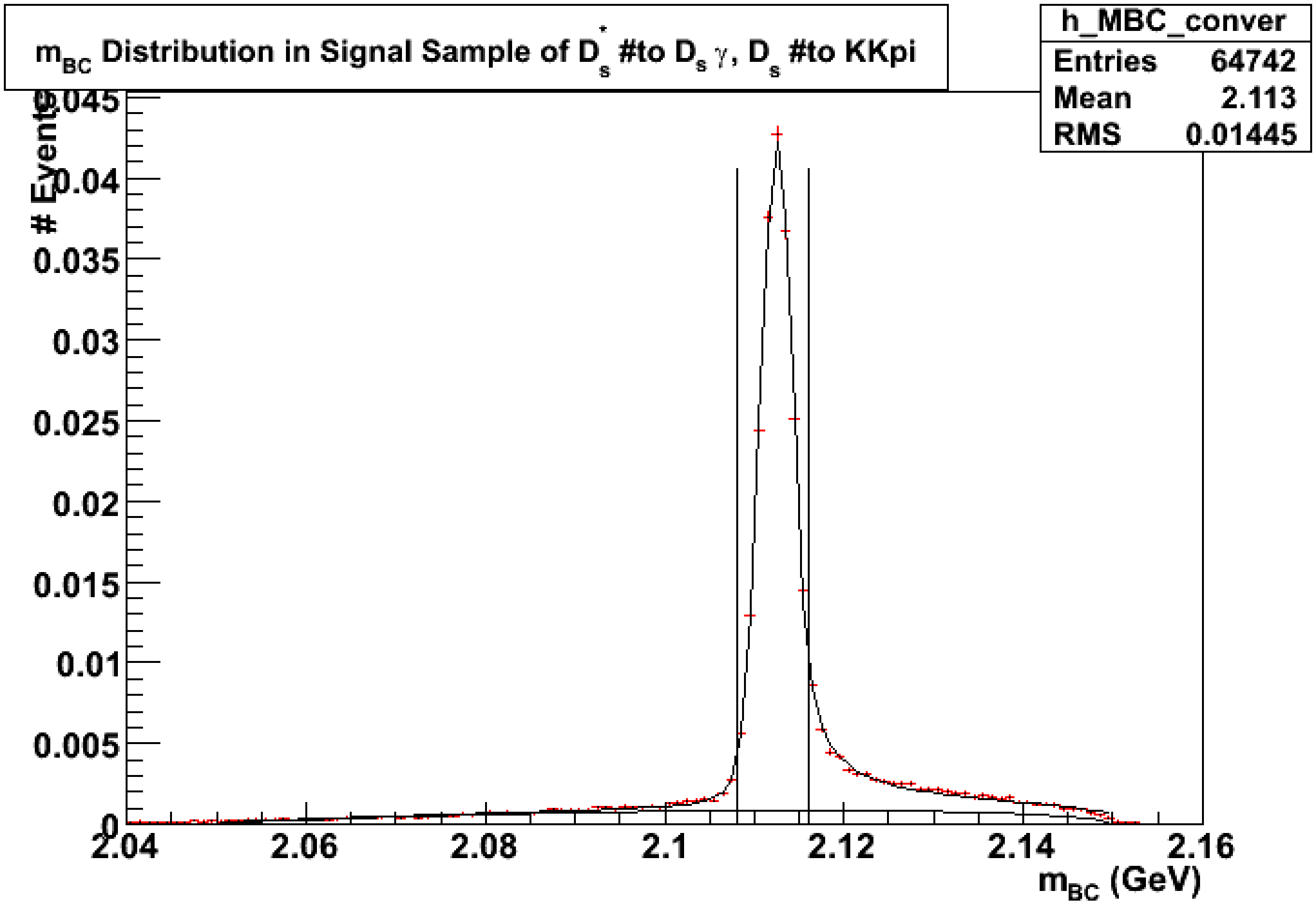
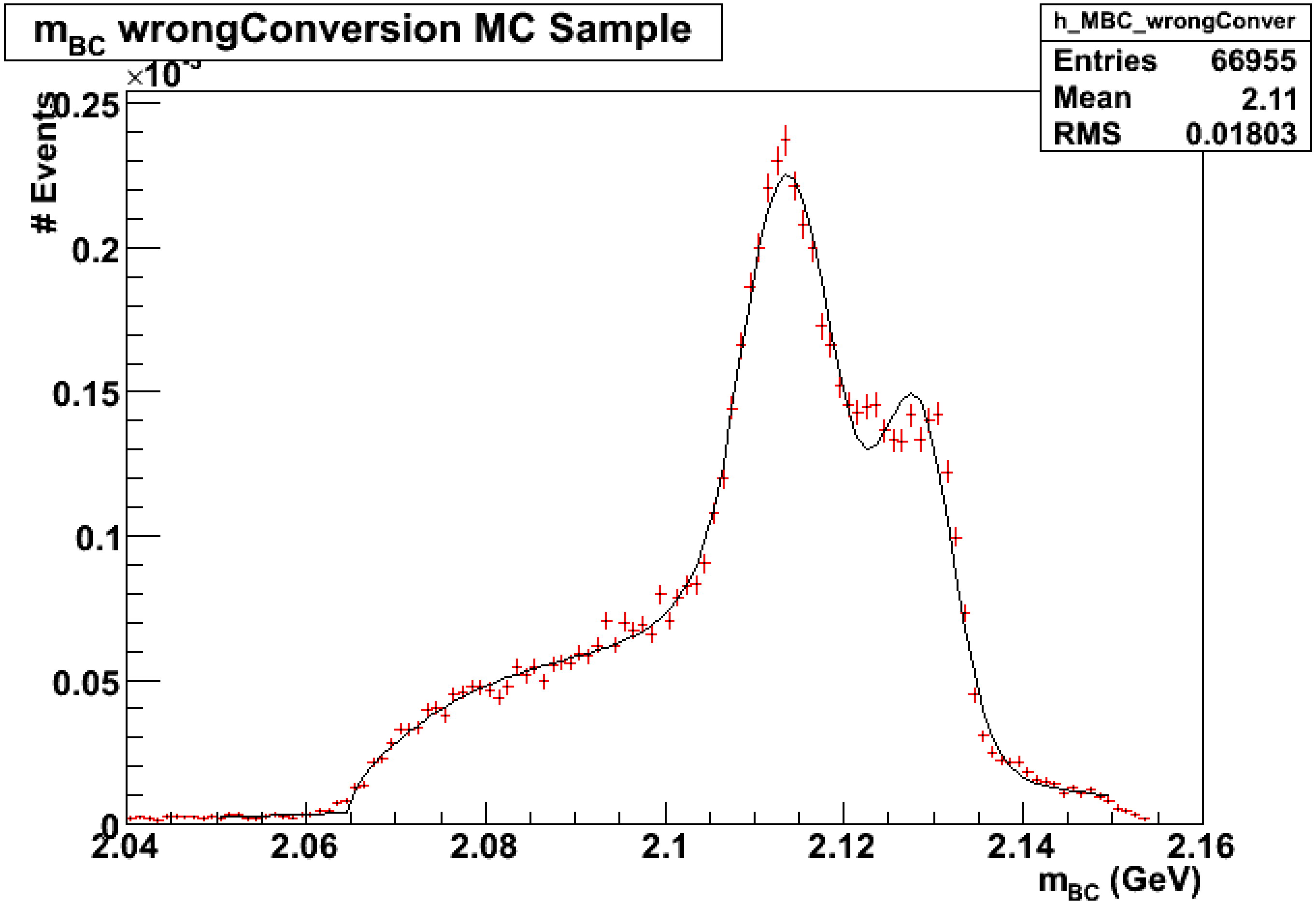
Ds* -> Ds gamma Channel



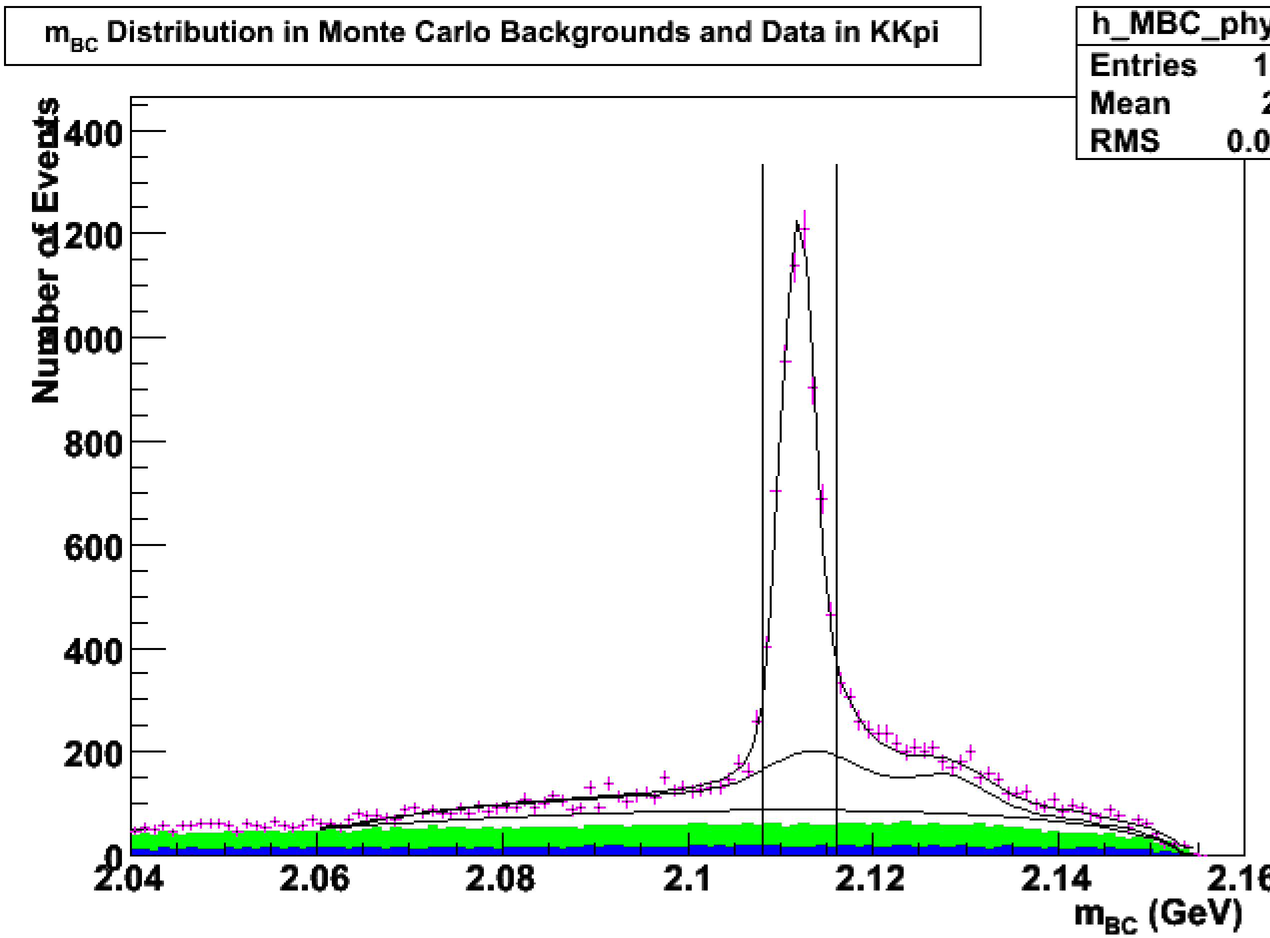
- We start with a Ds*+ -> Ds+ gamma sample and reconstruct the Ds*+ through the Ds+.
- The Ds- on the other side is decaying generically.
- Plot fitted to a double-shouldered Crystal Ball function standing on an Argus function.
- The cut efficiency is found to be 19.2% as before. (My plot is an average of Ds*+ and Ds*- decays)

Ds* -> Ds gamma Channel



- We start with a MC sample where Ds*->Ds gamma, where Ds on both sides are allowed to decay generically.
- We reconstruct the Ds*+ with the Ds- which we reconstruct from KKpi- and gamma. The Ds+ decays generically, and we don't care about it.
- Plot fitted to a quasi-Boltzmann distribution of the form “exp(-((x-x0)/x1)^2)*pow(((x-x0)/x1), x2)”, on top of which stands a double-shouldered CB for the main peak and a Gaussian for the second peak.

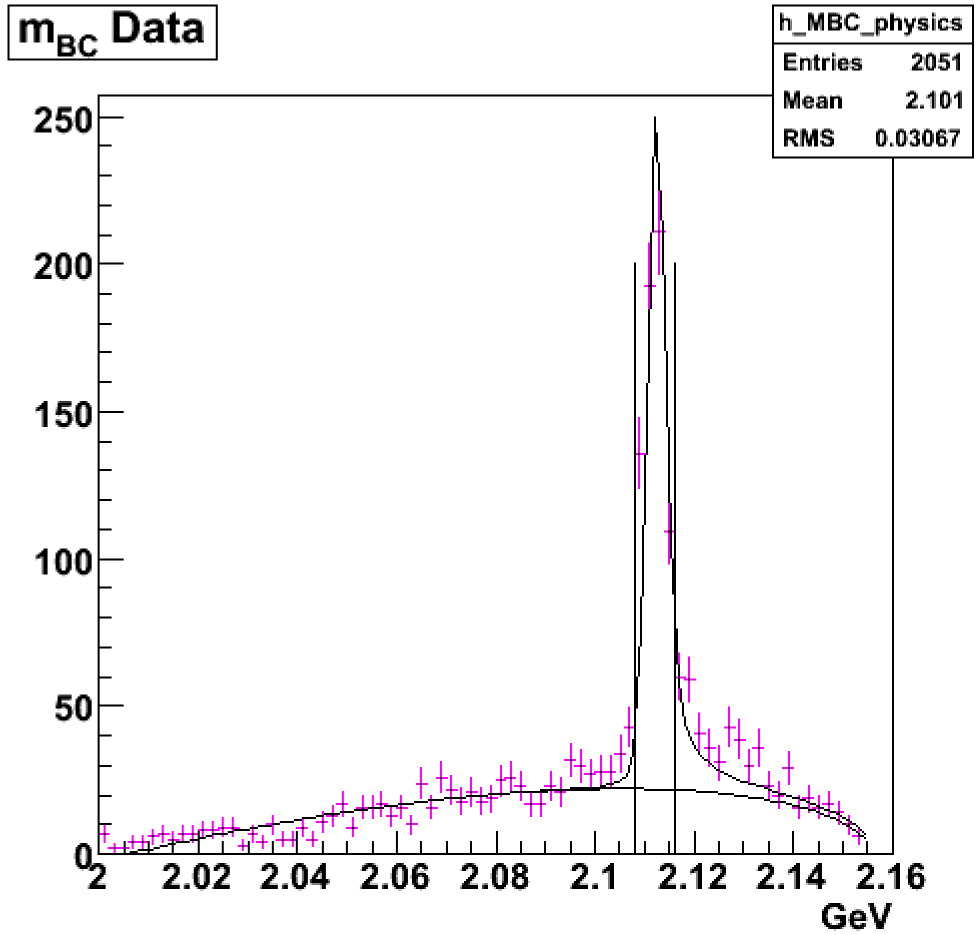
Ds* -> Ds gamma Channel



The data in pink is fitted to an Argus function on the bottom, a scaled version of the fit on Slide 3 and a scaled version of the CB from Slide 2 where the center of the peak is allowed to float a bit.

I infer B(Ds*->Ds gamma) = 0.83 +- 0.05. The PDG value is 0.942 +- 0.007.

Ds* -> Ds gamma Channel



A previous attempt with 10% of the data, fitted naively to a CB from Slide 2 on top of an Argus function gave us B = 96.2 % which went to ~ 100% when I used all the data. When we used all the data, the discrepancy in the higher shoulder region became very marked… and lead us to discover the contribution from wrong-side reconstructions.