Measurement of D^0 decays to $D^0 \to K_L{}^0\pi^0$ and $D^0 \to K_S{}^0\pi^0$

Charm group meeting

10/25/05

Manmohan Dash

Virginia Tech

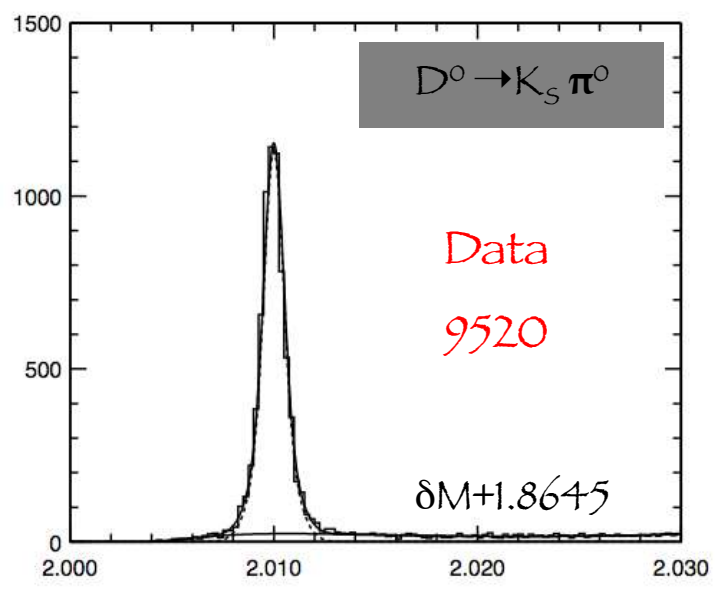
RECAPITULATION.....

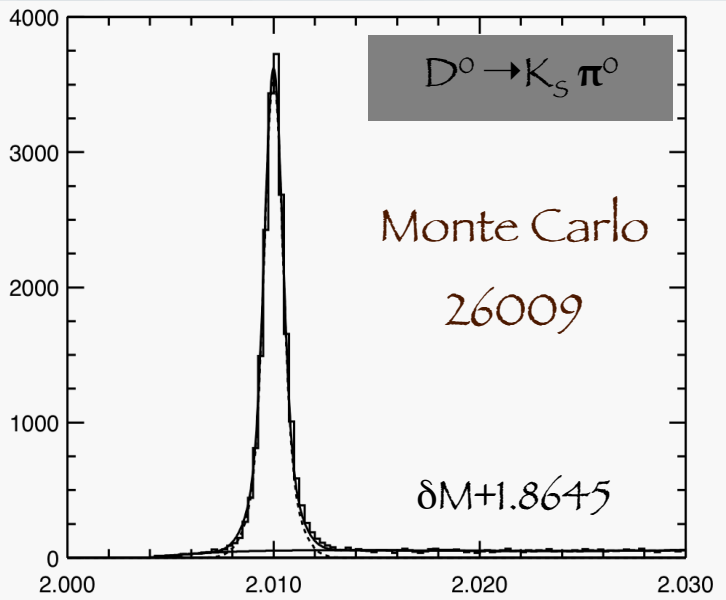
- Result shown in last BAM for MC yield surprisingly low compared to data

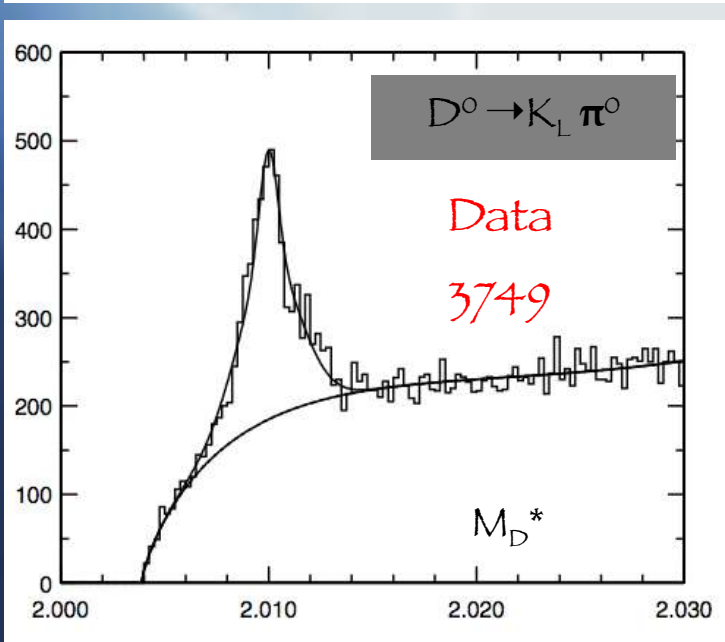
Diagnosis

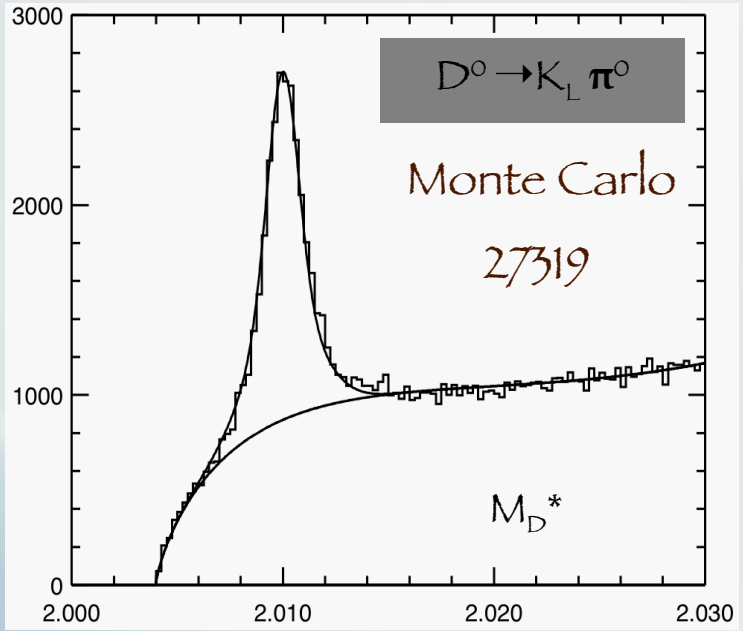
- Reason: in MC did NOT include continuum from on-resonance
- Skimmed and analyzed missing data

Asymmetry, Data Vs MC

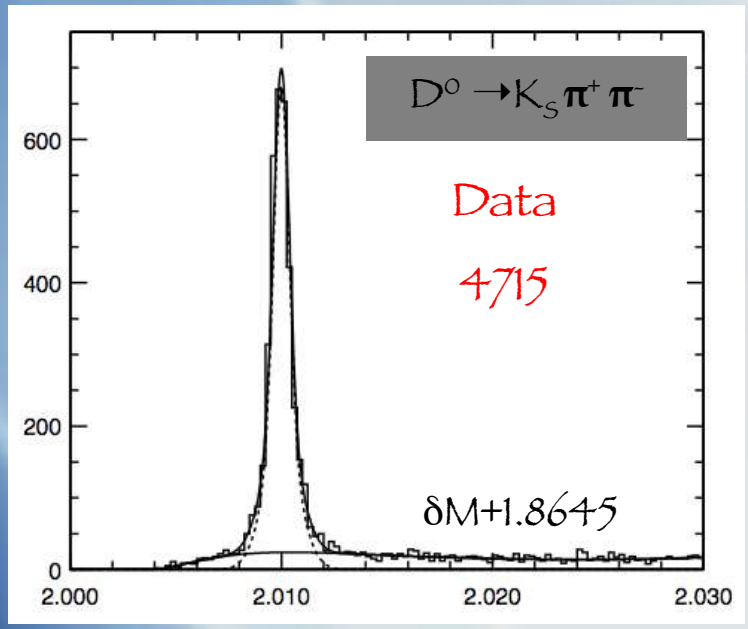


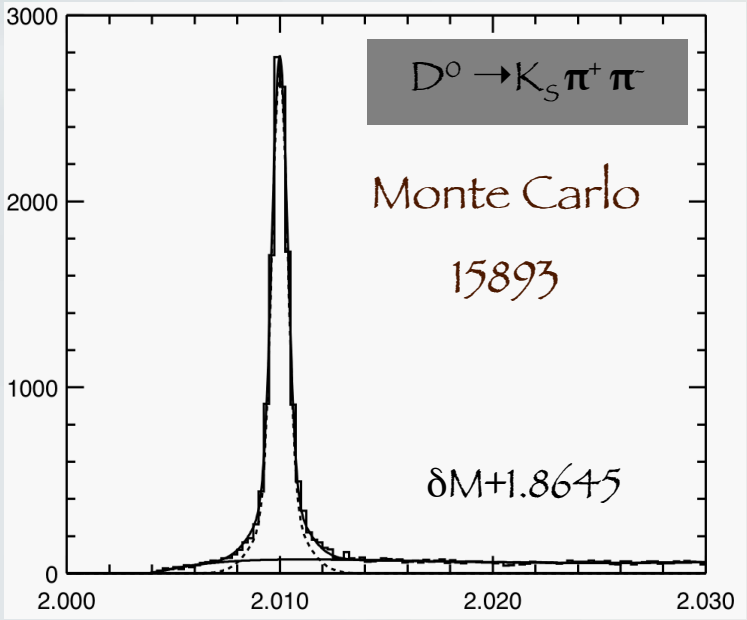


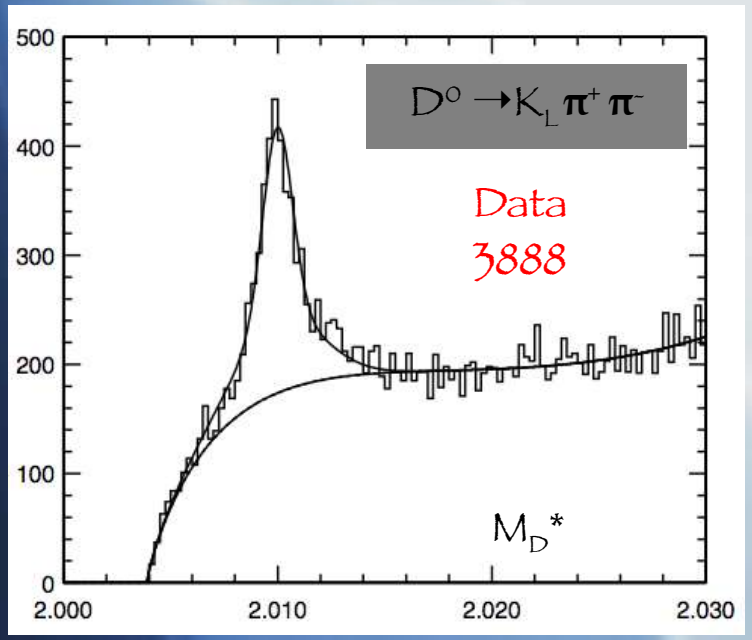


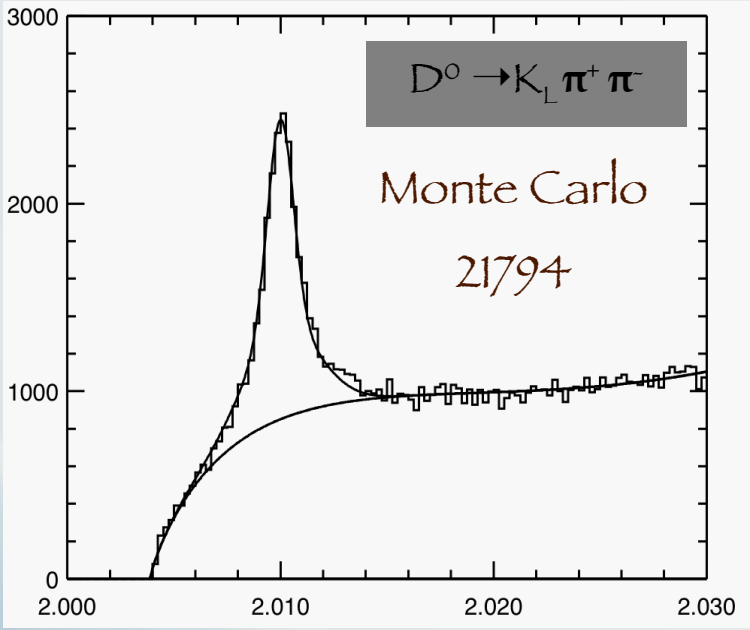


Calibration, Data Vs MC









M_D^*

Uncertainties on Yields

- 85.286 /fb MC (377.94 M HadronB events, 121.73 M events after skim)
- (Charm 25 oct 05)
- ---
- kspi --> yield = 18861(1+0.379) , error = 151, (18861*0.379*0.0349 = 249)
- klpi --> yield = 18237(1+0.498), error = 1430 , (18237*0.498*0.142 = 1290)
- kspipi --> yield = 12263(1+0.296), error = 153, (12263*0.296*0.018 = 65)
- klpipi --> yield = 15051(1+0.448), error = 801, (15051*0.448*0.039 = 263)
-
- 31.598 /fb Data (132 M HadronB events, 29.89 M events after skim)
- (BAM 27 sept05)
- ---
- kspi --> yield = 6597(1+0.443), error = 97, (6597*0.443*0.081 = 237)
- klpi --> yield = 3162(1+0.186), error = 240, (3162*0.186*0.055 = 32)
- kspipi --> yield = 3268(1+0.443), error = 67, (3268*0.443*0.064 = 93)
- klpipi --> yield = 2551(1+0.524), error = 211, (2551*0.524*0.089 = 119)

Next in the Agenda…..

- MC efficiency, MC truth, background study
- Systematics due to fitting, Kl efficiency and HadronB selection
- Results from full available data set