

Global fit for BF, FF and $|V_{cb}|$

Status Report

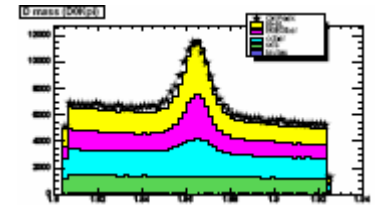
Outline of the analysis

- Dataset : Run1 – 4 (BToDlnu R16b skims).
- Release : analysis-26 (16.1.5).
 - Analysis-23 (14.5.5) and R14 skims were used in this preliminary study.
- Time frame : publish in 3rd quarter 2006 ?
- Goals :
 - BF's of Dlnu, D*lnu, D**lnu decays.
 - FF slope of D and D* ?
 - $|V_{cb}|$?
- Method : 3-D fit (e.g. D and lepton momenta and cosBY).
 - B- $\rightarrow$ Dlnu(X) events of both charge are being fit.
 - No attempt of reconstructing D* explicitly.

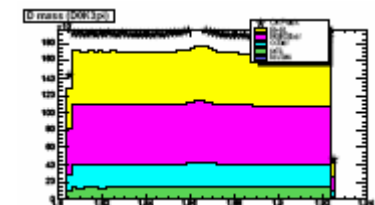
What has been done (1)

- Preliminary study of event selection
 - Bhabha veto
 - Better agreement between data and MC.
 - Tighter kaon selection
 - KMicroNotPion selector
 - Additional lepton
 - Require a lepton from the other B
- Not require additional lepton
 - Move to R16b skims
- D0->Kpi, Dch->Kpipi will be used

D0->KPi



D0->K3Pi



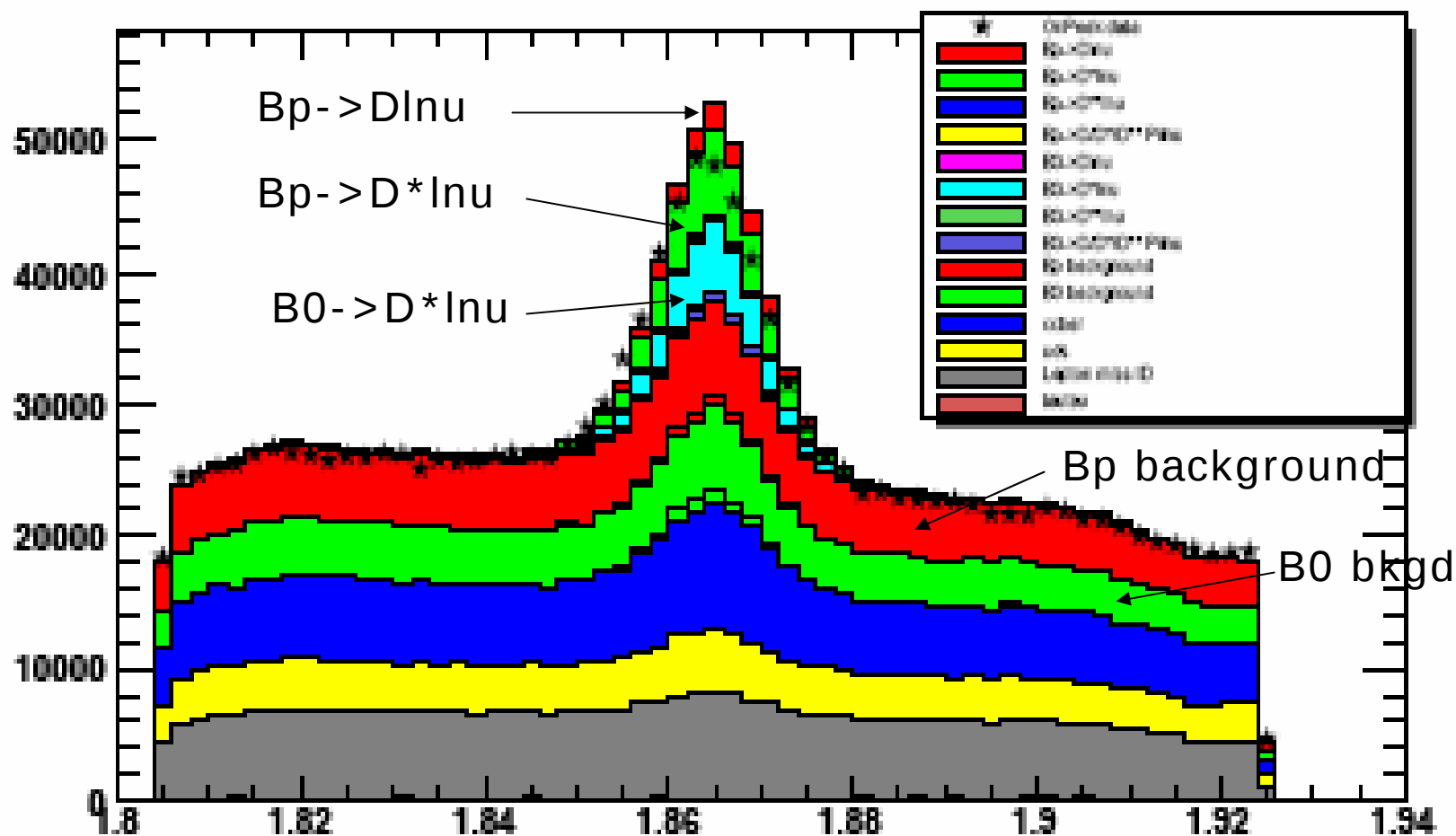
	$\frac{\sqrt{S} + B}{S}$
Original	2.5e-3
K selection	2.3e-3
Additional lepton	4.0e-3

What has been done (2)

- Expected yields based on MC truth
 - In D mass peak region: $1.845 < \text{DMass} < 1.885$
 - 25 fb-1 of MC
 - # of true Dlnu candidates = 108683
 - # of background = 580542
 - Expected yield per fb-1
 - # of true Dlnu candidates = 4347
 - # of background = 23221

D0 mass plot

D mass (D0Kpi)



To do list

- Short term (~weeks):
 - Move to release 16.
 - Try Treefitter in order to, perhaps, improve the S/B.
- Long term (~months):
 - Develop a fit with RooFit.
 - which will allow us to fix, constrain or float a large number of parameters.
 - This will require a substantial amount of work.