Validation of recent Fastsim production output: Hadronic Breco

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Strategy

* Samples :

    – BaBar FullSim, BB generic samples

    – FastSim in DG_BaBar, BB cocktail samples, September_2010 series, release V0.2.5 rev 311

* In the following:

    – shown distribution which seems to indicate "problems"

    – study Breco and global event properties

    – no chance to check signal side variables: not enough FatSim stat (about 20% ntuples available wrt requested sample)
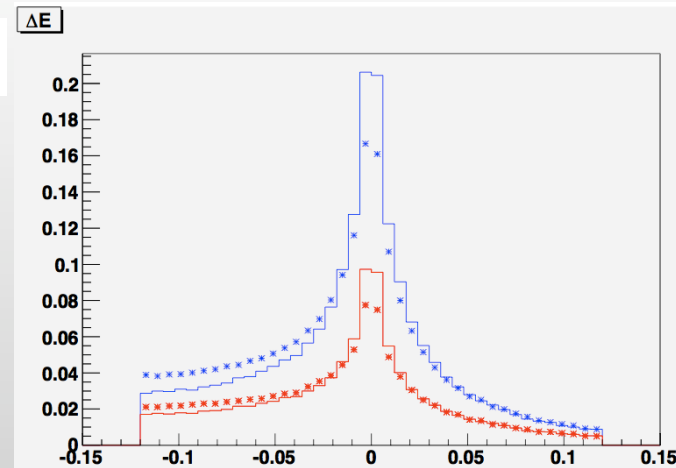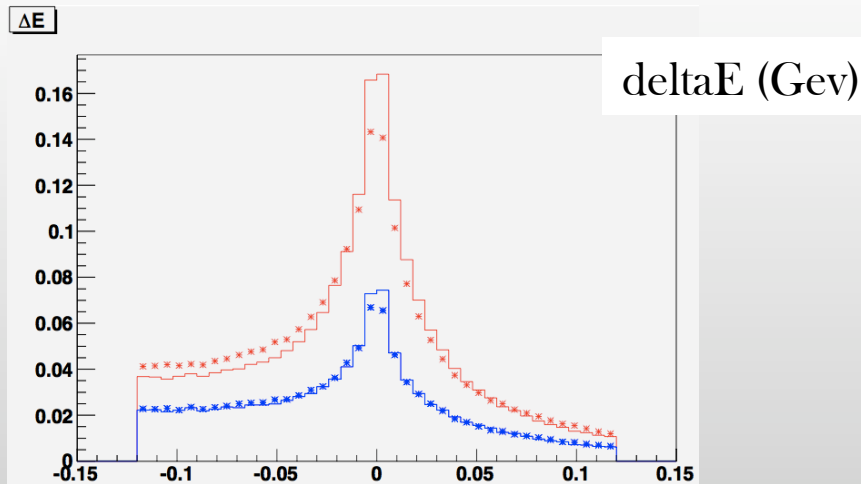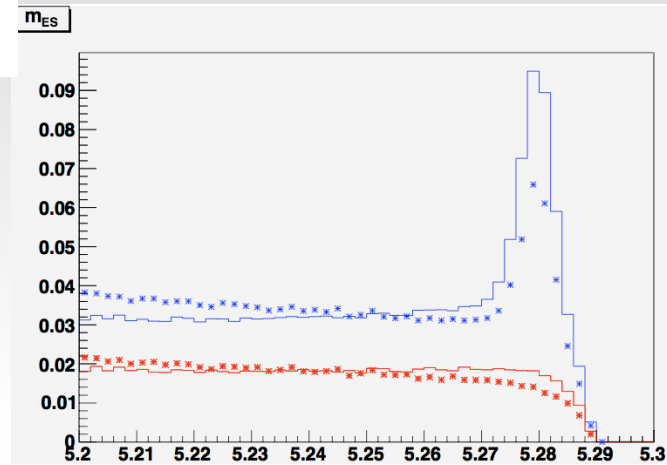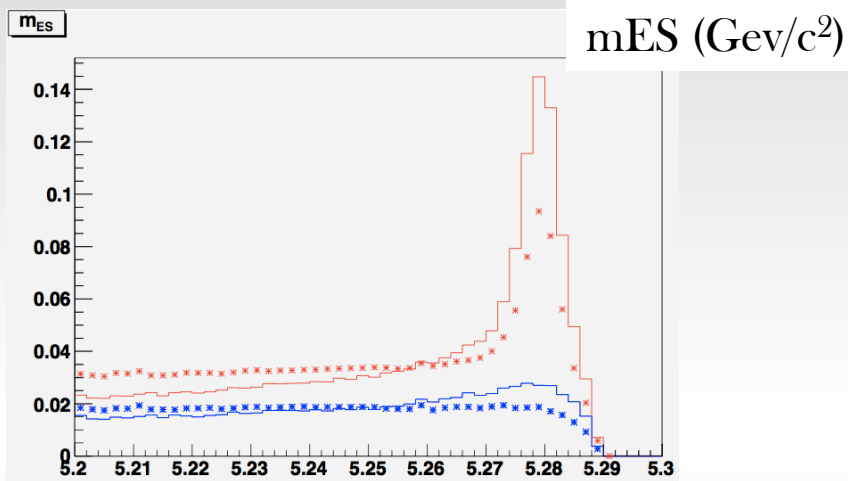
* Selection

  – At least 1 reconstructed Breco,with purity > 50%

  – nBreco < 15

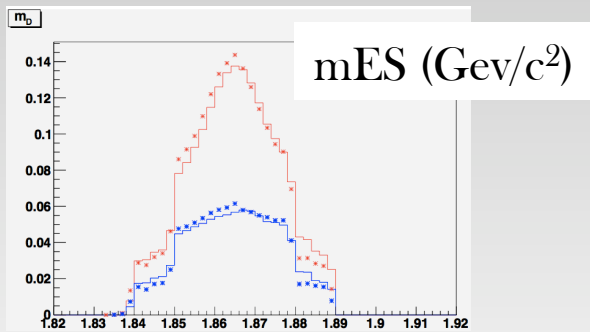 – Kaons from Breco passing LOOSE selection (as done in BaBar)

  – best Breco chosen according to smallest deltaE

mES and ΔE

* charged Breco

* neutral Breco

mES (Gev/c²)

deltaE (Gev)

D kinematics

mES (Gev/c^2)

* neutral Breco

* charged Breco

D momentu
CM frame
(Gev)

mD*-mD (Gev/c^2)

K_S mass and #gammas

* charged Breco   * neutral Breco

KS mass (Gev/c^2)

calor neutral
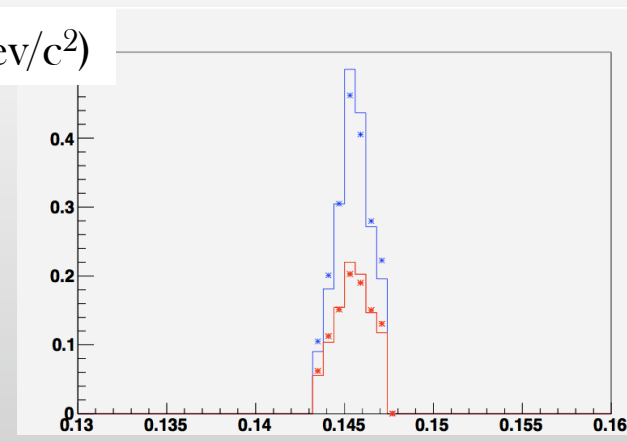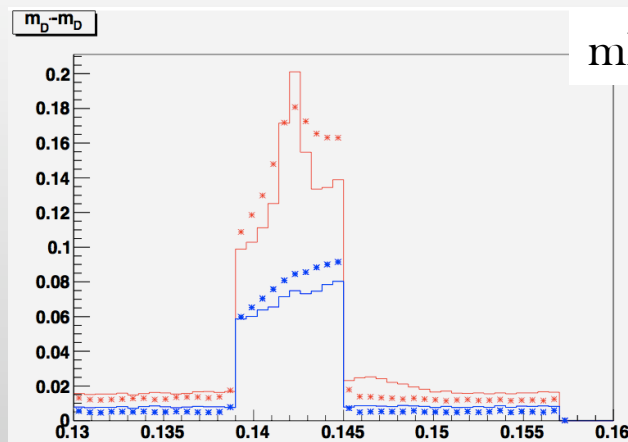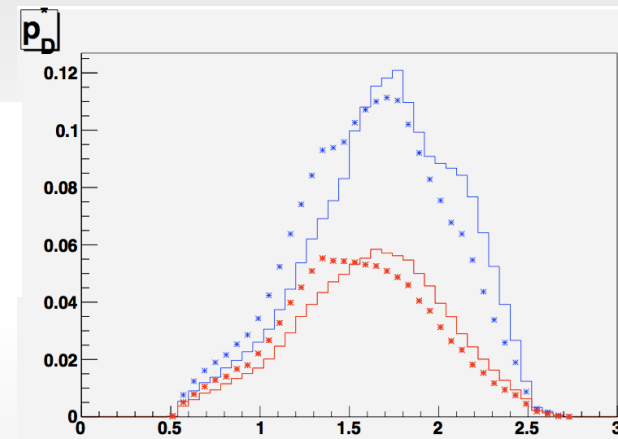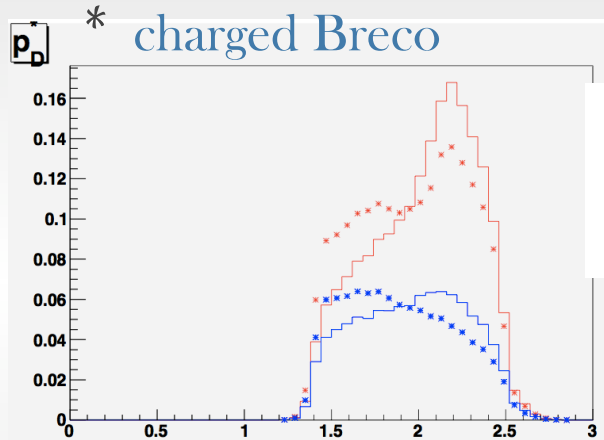
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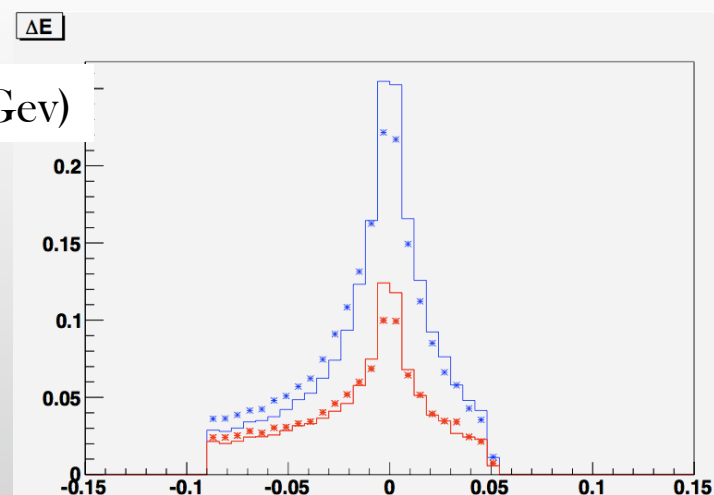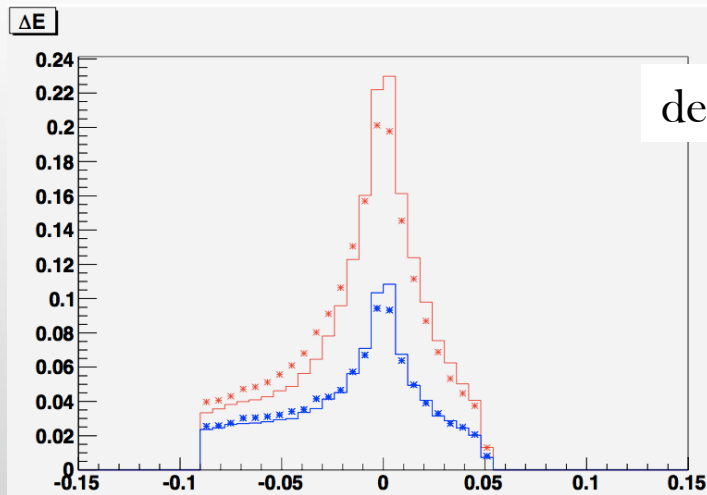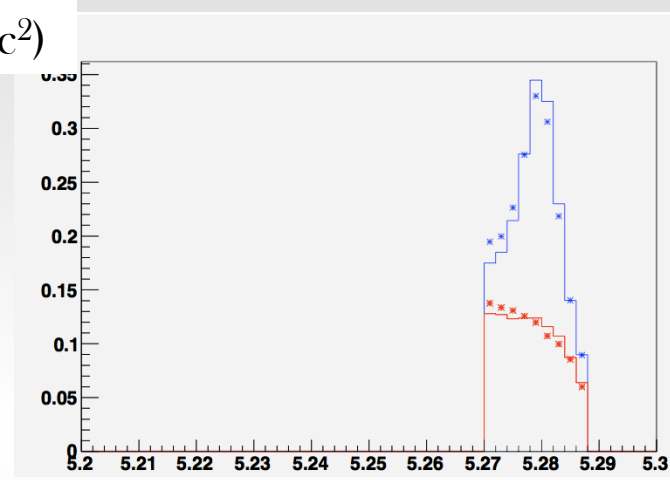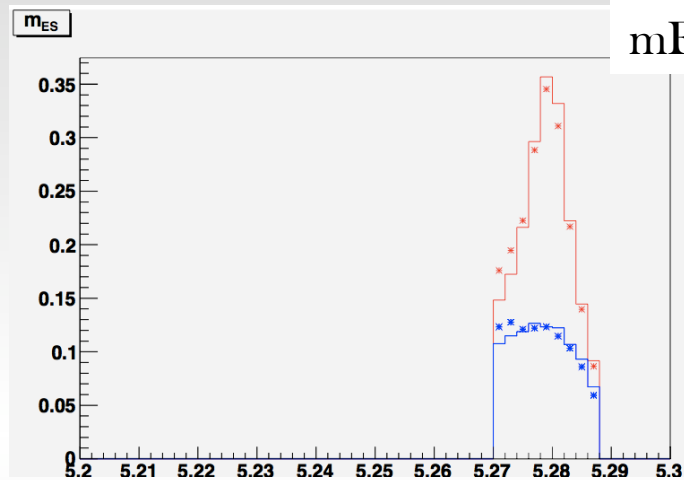
 – sel on kinematics (in the last plots only): $5.27 < mES < 5.288$ GeV/c^2 && $-0.09 < \Delta E < 0.05$ GeV

mES and ΔE

* charged Breco

* neutral Breco

mES (Gev/c²)

deltaE (Gev)

Conclusion

* First studies on September_2010 Production validation
    - BaBar BB generic FullSim vs BB cocktail DG_BaBar FastSim
    - validate Breco and event property distributions

* Missing peak in mES and deltaE (prior to kinematics cut) expected
* improvement in mES and deltaE agreement when applying kin. cuts

* some discrepancies in D kinematics (mainly in charged Breco sample), KS mass and number of neutrals → mode by mode study needed

* To do list
    - selection efficiency comparison
    - validation on signal side properties: run on full cocktail stat when available, privately produce signal FastSim sample

Back-up slides