

# Flavor Tagging

## *Section Editors*

*BaBar: Juerg Beringer*

*Belle: TBD*

*Theory: n/a*

B-factories Legacy Book Meeting  
SLAC, Oct 30-31

# Papers

## BaBar

### Published

No (?) published papers specifically on tagging; BAD for journal draft exists

## Belle

### Published

1) Nucl. Instr. Meth. A533 (2004) 516  
others?

## Summary of papers (BaBar+Belle):

Flavor tagging (usually briefly)  
described in most physics papers.

# Section subdivision (preliminary)

- Intro to tagging
  - \* definitions
  - \* physics sources of tagging information
  - \* multivariate methods used
  - \* things we tried, what worked, what didn't?
- Flavor tagging algorithms
  - \* BaBar and Belle algorithms
  - \* only most recent algorithms
  - \* categories etc
- Measuring flavor tagging performance
  - \* history of tagging performance in Belle and BaBar
- Systematic effects
  - \* tag side interference

Approximate expected # pages  
needed for whole section: 30?

# Inter-correlation

Subsection Measuring tagging performance

related to mixing

Foreseen resolution: Quote performance results in tagging section, refer to mixing for method

Subsection Tag-side interference

related to  $\sin^2\beta$

Foreseen resolution: Cover in one section (tagging?), reference from the other

Subsection Algorithms

related to Analysis w/partial Brec reconstruction

Foreseen resolution: Mention as a special case in tagging section; put detailed description to specific analysis

# Inter-correlation contd.

Subsection Background suppression from tagging related to several analysis

Foreseen resolution:  
Seems rather analysis-specific; mention in tagging section but mostly discuss in physics analysis?

# Contributors

Confirmed (beside section editors)

BaBar: Bob Cahn

Belle: Hidekazu Kakuno

Un-confirmed

BaBar: several candidate contributors, not yet contacted

Belle: ?

# Comments

Tagging section defines notation for tagging-related quantities (efficiency, wrong tag fraction,  $Q$ , etc).