STRAND THREE:
Baryonic B decays, charm (all), heavy quarkonia, tau, QED/ISR, 2photon, Y(5S), QCD

SUMMARY

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

Inter-correlation: Dalitz

- Physics sections that contain Dalitz analysis results:
  - Charmed and charmless B decays
  - Charm decays
  - Charmonia
  - D mixing
  - CKM angles

- Relies on the following Tools sections:
  - Maximum likelihood fits
  - Unbinned fits

Inter-correlation: D-mixing

D Mixing and CPV

4. Hadronic WS Decays

Measurement of the wrong-sign decays D0 ---> K+ pi- (pi0, pi+ pi-) and search for CP violation))

related to

Section: Charm meson decays and spectrosc.

Foreseen resolution:
cross-referencing, relevant results R_WS) in both

D Mixing and CPV

5. Time-Dependent Dalitz plot analyses

Measurement of $\DzDzb$ Mixing from a Time-dependent Amplitude Analysis of \Dz\to\Kp\pim\piz$Decays))

related to

Section: D Mixing and CPV
4. Hadronic WS Decays

Foreseen resolution:
cross-referencing,
inclusion into t-dependent Dalitz analyses

Inter-correlation: D-mixing

D Mixing and CPV
5. Time-Dependent Dalitz plot analyses

related to

Section: Tools & Methods
Dalitz analyses

Foreseen resolution:
cross-referencing for general Dalitz method, specifics (models) in D Mixing section

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D Mixing and CPV
2. General Experimental Remarks
2.2 Time Resolution

related to

Section: Tools & Methods
Vertexing

Foreseen resolution:
?

Inter-correlation: ISR

Subsection	related to Section	Foreseen resolution:
Hadronic cross section, g-2	Tau	Describe the analysis indipendently, write phenomenology and interpretatation in a separate section
e^+e^- → open charm	Charm/ charmonium	Not clear: probably analysis described in ISR and reference to charmonium
e^+e^- → Y states via ISR	Exotic charmonium	Not discussed yet: move to exotic charmonium section?

Inter-correlation: Tau

Subsection: |Vus| Papers - various strange decays)	related to OPE formalism Section (?)	Foreseen resolution: cross-referencing & division of topics ...
Subsection: All	related to tools: PID	Foreseen resolution: cross-referencing
non-strange SF: 2pi (Rtau) (Paper Belle)	related to ISR pipi etc g-2	Foreseen resolution: combined section on g-2
Subsection: lifetime No paper yet	related to Charm lifetime ratios	Foreseen resolution: cross-referencing

Inter-correlation: QCD fragmentation

Subsection	related to Section	Foreseen resolution:
inclusive Charmed Baryons production	Charmed baryons/ B decays to baryons	Described in fragmentation section, cross-referenced ?? (should talk to Baryonc B-decays Section Editors)

Inter-correlation: Charmed Baryons

Several cases where papers involve charmed baryons but main thrust of analysis belongs in another section:

- Exclusive B decays to charmed baryons (→ baryonic B decays)
- Inclusive momentum spectra of baryons (→ fragmentation and/or baryonic B decays)
- $\Lambda_c^+ \Lambda_c^-$ pair production with popcorn (→ fragmentation)
- $\Lambda_c^+ \Lambda_c^-$ pair production in ISR events (→ ISR? Exotics?)

Section editors for baryonic B decays & fragmentation contacted.
Resolution: those analysis topics will be covered elsewhere (i.e. not by us)

Subset of the above include results on charmed baryon spectroscopy / decays in same paper. In those cases, we'll cover that part.

- Example: $B^- \to \Lambda_c^+ \underline{p} \pi^-$ includes results on Σ_c resonances.

Comments a few missing ppt templates:

B decays to Baryons – active email conversations

Charmonium

2-photon – question of how to present spectroscopy results coming from different production mechanisms – suggest a summary of results (addition)

Y(5S) – standalone, Bs decays –> in B decays

Inter-correlation: Bottomonium

- Higgs
  - related to radiative penguin physics ($b \to s\nu\bar{\nu}$, $b \to s\ell\ell$)
- Dark Matter
  - related to inclusive physics ($e^+e^- \to$ 4leptons), B decays ($B \to K\nu\bar{\nu}$, $B \to$ invisible, ...)
- Do we need a "New Physics" overview chapter covering cross-topic physics?

A Modest Proposal: Expand last section to include additional Global Interpretations

-global CKM
- interpretation of direct searches & precision measurements in terms of benchmark theory(ies)
- interpretation of ISR and non-strange spectral functions in terms of hadronic vacuum polarization corrections to muon g-2