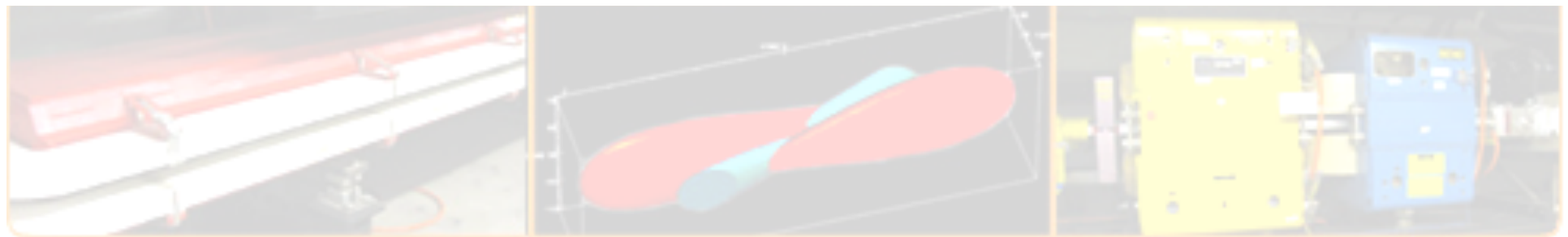


White Paper



Adrian Bevan, David Brown, Marco Ciuchini, Achille Stocchi



SuperB Project Workshop and Proto-Collaboration Meeting X
October 6-9, 2009 SLAC

Few questions we have to answer to construct and to sharpen the Physics Program

(some have been addressed better than others)

Is a SuperB a discovery machine in LHC era ?

Achille, Tuesday

Why $>10^{36}$ luminosity needed ?

Is SuperB complementary to LHC ?

Would not be LHCb enough to perform flavour studies ?

Is there any interest of running at the τ -charm threshold ?

Is it important to have at least one beam polarized ?

Physics Program in two sentences

$$\frac{|\delta_{bq}|}{\Lambda_{eff}}$$

SuperB Physics Program is such that

* if NP particles are discovered at LHC we are able to study the **flavour structure of the NP**

* we can explore **NP scale** beyond the LHC reach

$$L \sim 10^{34} \text{ cm}^{-2} \Leftrightarrow \text{EW scale} \sim 100 \text{ GeV}$$

$$L \sim 10^{36} \text{ cm}^{-2} \Leftrightarrow \text{TeV scale}$$

What is the white paper for?

- Audience:
 - Peers / our scientific community.
- Why?:
 - To provide a succinct physics case to present to regional funding agencies.
 - To use as a short summary for interested colleagues to use when deciding if they want to join SuperB.
 - Intermediate document ... a step toward TDR.

What will the white paper look like

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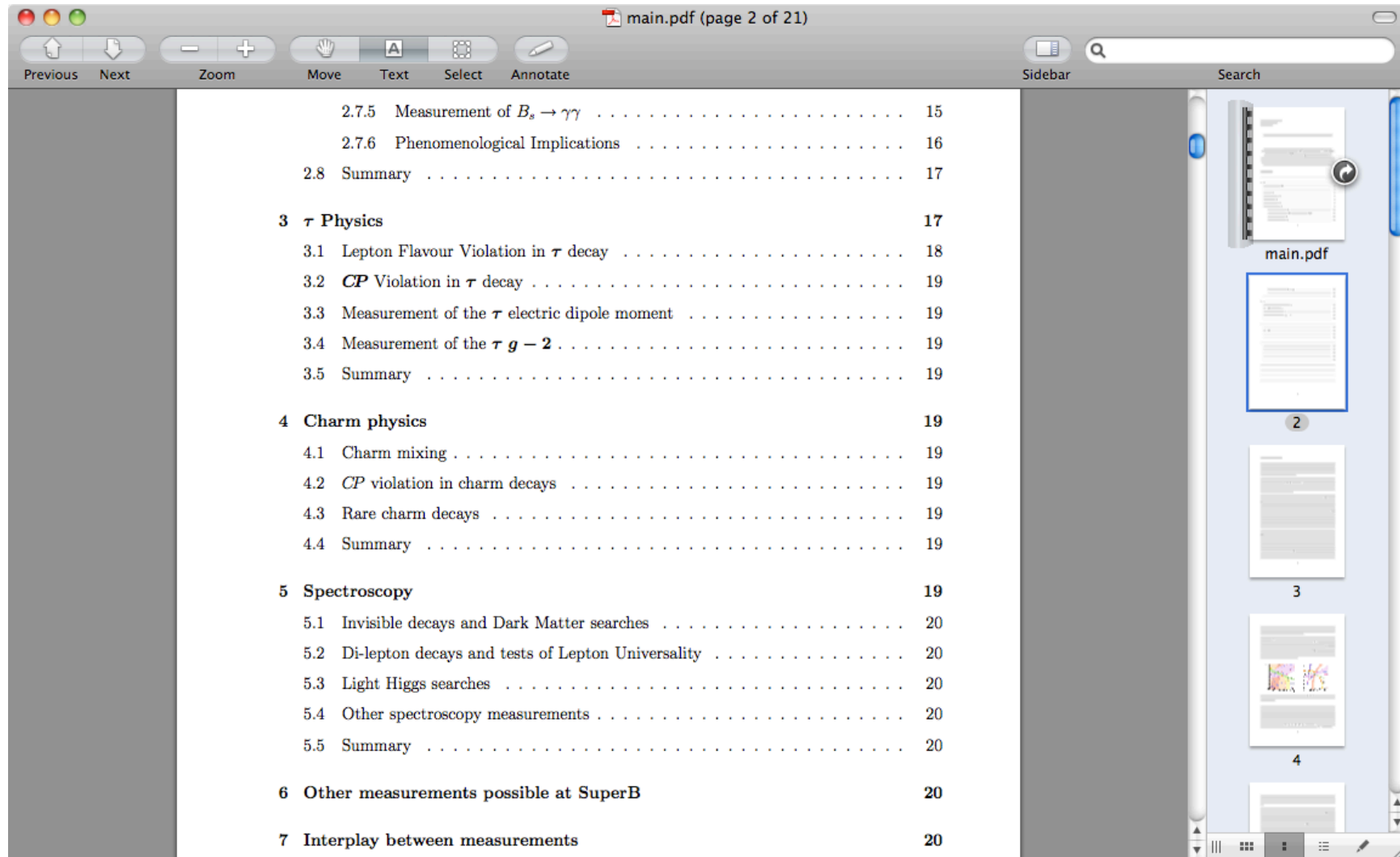
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What will the white paper look like



How will we write the paper

- There is a SVN repository at LBNL that we can use as for the tex and figures.
 - available for all people who want to contribute (expt.+th.)
 - Can (and will) sync final documents with CNAF repository once work has been completed.
 - Provide web interface with cron job to update pdf of document on a daily basis.

What next...?

- The white paper has to be completed by the beginning of December.
 - Need to start writing.
 - Have an outline of the work we need to discuss.
 - Any improved analyses (FastSim) should be included in this.
 - Meetings with conveners envisaged between now and then.

Winter Physics Workshop '09

- From 30th Nov. through 4th Dec. '09.
 - Some sessions/activities will be in parallel with the general SuperB meeeting.
- Aims: Consolidate physics case for:
 - White Paper
 - 2010 work on the TDR
 - Interface to simulation effort / DGWG etc.
- e-mail announcement will circulated shortly.