

**Status report of the DIRAC experiment (PS 212).  
SPS Committee, April 2011.**

**1. Status of 2008 and 2009 data on K<sup>+</sup> pi<sup>-</sup> and K<sup>-</sup> pi<sup>+</sup> atoms.**

The Ntuples (variables describing individual reconstructed events) of all experimental and Monte-Carlo data are available. The experimental statistics with a minimal background were analyzed and the numbers of pi-K atomic pairs were extracted. The additional experimental events with a higher background and their distributions are presented.

**2. Status of 2010 data on K<sup>+</sup> pi<sup>-</sup> and K<sup>-</sup> pi<sup>+</sup> atoms.**

The preselection of all data from 2010 is completed. From the comparison of the preselected events of 2008, 2009 and 2010, a conclusion about the expected total numbers of K-pi atomic pairs is made.

**3. Status of 2008 and 2009 data on pi-pi<sup>+</sup> atoms.**

The numbers of pi-pi atomic pairs in 2008 and 2009 data are presented together with their expected number in the 2010 run. Using the life-time measurement from 2001-2003 data, the expected statistical and systematic errors of the new data are presented. The status of the publication about pi-pi atom life-time measurement on 2001-2003 data is presented.

**4. Multiple-scattering measurement during the 2011 run.**

The plans for this study will be discussed, aiming at a precision of about 0.5%. This measurement will allow to decrease significantly the estimated systematic error in pi-pi atom life-time measurement.

**5. Long-lived pi-pi atoms.**

The experiment on the long-lived pi-pi atoms observation in 2011 will be described.

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