

I would remove the review comments

**Done**

I would not divide the physics program into 5 subsections

**Done. Subsections removed.**

Page 6 line 13: remove “ $E_B$ ” in ... at a beam energy of about ...

**Done**

Page 7 line 2: “... with the SIS100/SIS300 accelerator rings (see Fig. 2).” Skip the rest of the sentence (because SPS CERN provides almost the same luminosity)

**Done**

Page 7, CBM Physics Program, line 6: “(for year 2013)”. Check reference

**Done. Reference to be checked**

Page 8 line , headline “Equation of state of baryonic matter at neutron star core densities”

**Section titles were removed**

Page 9 Section Dipole magnet: “ ... with large polar angle acceptance...”

**Done**

Page 9: Section Microvertex detector: Line 2...”124 (314)  $\mu\text{m}$ .”

**Done**

Page 13

Section Design requirements line 3: “ ... any high-energy heavy-ion collision experiment.”

In the second paragraph one should mention that an alternative method of centrality determination is to measure the participant particles (which we also do).

**Done**

Third paragraph line 8: "To fulfill such a requirement ..."

**Done**

In paragraph general requirements bullet 4: "- Determination of collision centrality classes with an accuracy of better than 10%"

**Done**

Page 14

First paragraph Line 3: "The former one ..."

**Done**

Third paragraph line 6: "ILC" instead of "JLC" ?

**JLC is correct**

Fifth paragraph line 2: " Recently, a .....calorimeter .... has been constructed ..."

**Done**

Comment: I have a copy where the section "PSD Performance starts with page 1. I assume this will be page 15 in the final version. Nevertheless, I start to count with page 1 again, please add the appropriate offset.

**Page number is now consistent throughout the document**

Page 1

Second paragraph

line 2: "... and on the amount ..."

**Done**

line 6: “ ... 2 and 30 A GeV.”

**Done**

Figure caption

Line 2: “ ... data from the ...”

**Done**

Line 3: “Left:” instead of “(left)”. “... rapidity”

**Done**

Line 5 “Right:” instead of “(right)”

**Done**

Line 6: “The impact parameter ...”

**Done**

Lines 8 and 9: correlation of cuts and energies unclear.

**Clarified.**

General question to the layout: is it possible to locate the figures at the end of a paragraph, and not inside a running text?

**Yes, done.**

Text below the figure caption:

Line 3: “The availability of fragments in the spectator region and the qualitative agreement with the experimental data ...”

**Done**

Section GEANT model...:

Line 2 and 3: "Hadronic processes, models and cross sections .... using the physics list ..."

**Done**

Page 2

Figure caption

Line 1: Replace "Simulated geometry.." by "The geometry.." because in the first sentence you have already used the expression.

**Done**

Last line "anisotropy"

**Could not find the place for** "anisotropy"

Section PSD response simulation, second paragraph "Figure ??"

**Fixed.**

Page 3, Table:

Third line: "UrQMD"

**Done**

Last line: "fragments"

**Done**

Table caption: "used for the performance study."

**Done**

**All comments below for performance section (highlighted in red) are fixed in the updated version which I send around last Friday (now included in the full document)**

Section particle hit distribution: “Fig.??”

Page 4:

Section energy deposition: in three paragraphs figure references missing “Fig.??”

Paragraph 1 and 3 almost identical.

Second paragraph line 3 “... less than ...”

Second paragraph last line: “A few approaches to solve this problem are discussed in Chapter 4.”

Page 6

Section “collision centrality determination”: many figure references missing (Fig.??) which makes it difficult to read. In this paragraph there is only one figure, but six figure references.

Second paragraph starts with “This is shown ...” Question: what is shown?

The second but last paragraph starts with: “One can see that the PSD provides better centrality selection with respect to the STS in central collisions ...” This is in contradiction to the figure where  $\sigma/b$  is shown.

Page 9

Section “Reaction plane reconstruction”

In subsection Event plane method, first paragraph last line you state: “... estimated reaction plane will be referred to as the event plane.” In the following paragraph you talk again of event plane and reaction plane. Is this the true (MC) reaction plane?

Paragraph 5 line 2: “Because of the detector ...”

Last paragraph: This is may be an old text referring to the old layout with the hole in the central module.

Page 11

Figure with reconstructed event plane (flattening) is wrongly referenced in the text. Please put the figure in the corresponding section.

Figures with event plane resolution: sequence of discussion of the figures is opposite to the figure numbering. I did not find a reference in the text to the last figure in the section “Event plane resolution”.

Now come the comments to Chapter 7 PSD components (Page 33 in my copy).

Line 3 below Figure caption: “ ... collected together and read out by a single ...”

**Done**

Page 34 “7.1.1 Mechanical design”, first line: “... each module are packed into a box...”

**Done**

Page 38, 7.2 Readout electronics, line 9: “... requirements of the physics program ...”

**Done**

Page 41, 7.3 Energy calibration..., line 3: “... but also the shower reconstruction ...”

**Done**

7.3.3 Cosmic muons:

line 2: “...PSD, a dedicated ...”

**Done**

line 3: “It consists of an array ...”

**Done**

Page 42

Line 1: “The dimensions...”

**Done**

Line 3: “...through the discriminator, a simple trigger ...”

**Done**

Second paragraph

line 2 "...of the order of..." (twice)

**Done**

line 3: "...response to the cosmic..."

**Done**

Fourth paragraph: line 3: "A Voltcraft..." last line: "... a Yokogawa..."

**Done**

Fifth Paragraph: "... with a path length in the range of ..."

**Done**

Sixth Paragraph: line 1: "... and the FE module ... the response to cosmic muons ..."

**Done**

Seventh paragraph: line 1: "From the comparison of the results of the measurements ..."

**Done**

Page 43 first line: "...to determine the relative difference ..."

**Done**

Page 45: combine figure on pulse height distributions to one figure (left and right)

**Done**

Page 46 7.4 Control and cooling systems

Line 1: "The gain of the PSD ..."

**Done**

Second paragraph line 3 "... controller (see Fig. 42). ..."

**Done**

Third paragraph:

line 3: "4%/°C" , : "1%/°C"

**Done**

line 10: "...centers of the electronic boards."

**Done**

Page 47

Line 1: "...as well as the copper ..."

**Done**

Second paragraph: line 2: "... Fig.44 (left)."

**Comment is not clear**

Third paragraph:

line 2 "Fig.45 ..."

**Comment is not clear**

line 5: "... varies during the measurement between 19.5 and 20.5 degrees."

**Done**



Page 49:

8. "R&D on PSD components"

Page 50: line 2: "the protection smoothens ..."

**Done**

Fifth paragraph, line 4: "...the beam profile in front of the module ..."

**Done**

Page 52 Chapter 8.1.2 first line "The next step..."

**Done**

Page 62:

8.2. Performance ...."

Third paragraph: first sentence makes no sense

**Sentence removed**

Fourth paragraph: line 3: ... in full agreement...

**Done**

Page 70: single figure on one page

**Done**