

Page 1, line 1: “90 GeVto” -> “90 GeV to”

There are many places where the space after GeV is missing (or very narrow).

Page 6, line 8

“The ILC’s integrated luminosity at 250 GeV is 10^3 times more than ... 4 LEP experiment.” ->

I am not so impressed with this comparison. It is not so meaningful to compare “Integrated” luminosity at “different” CM energy. I cannot find the ILC number (250fb? 2000fb?) in the chapter. LEP means LEP I or LEP I+II? ... I think there is the other better way to impress readers.

Page 7, line 13 – Page8 line2:

I like to have the reference if you like to “emphasize” its “substantial” role.

Page 9, line 17

“The JAHEP has proposed to host ...”

The JAHEP is a community and it cannot host something by themselves. ->

“The JAHEP has proposed that Japan hosts the ILC....”

(Please check with the Japanese members, too)

Page 36, last sentence - Page 37 line 1.

“This can be safely extrapolated to ~100 micron....”

This is not so obvious to me. In the figure the resolution is ~100micron at 200 mm. The field is 3.5 times stronger but drift length is 10 times longer.... It may help if you mention how diffusion is suppressed with 3.5T. (But if this sentence is correct and if you need a long explanation, leave as it is.)

Page 50-52. Figure 6,2, 6.3, 6.4

The names of the caverns are different in each figure (and in main texts) so it is rather difficult to understand. I think it is too much work to make all consistent but you may consider to change “UT hall” in the Fig 6.2 and 6.3 to “U/S cavern”.

(Or, Page 49 line 31: “in dedicated utility/service caverns,” ->

“in dedicated utility/service caverns (UT Hall in Figure 6.2 and 6.3). and remove this explanation in Page 51 line 6),”

Page 69, line 17: “additional spacers”

I don't understand which ones they are in figure 6.32 but probably it is not necessary to explain.

Page 70, line 7 remove "c.f."

Page 70, line 11-22

This is the first place the word Anti-DID appears. I think it is much easier to read if the two paragraphs are swapped (with some modification: probably the first sentence can stay as it is by ending as "... in design and manufacturing the magnet system.")

Page 94: line 5: "Hybrid simulation"

This is nice implementation. But I cannot judge from the texts if this is only for HCAL or you have same mechanism for SiECAL and ScECAL.

In chapter 8 you have various comparison of the IDR-S and IDR-L but it is not written which calorimeter (for both ECAL and HCAL) is studied. Most of the difference is very subtle and I think the difference of ECAL type may be more larger impact. (especially for the object matching such as $\tau \rightarrow (\pi \nu)/(\rho \nu)$ separation. If the situation is simple it is better to mention the default CAL type at the beginning of chapter 8.

Page 98 Table 7.3:

"5f: five fermion final states" looks very odd to me.

Maybe "5f: $\gamma e \rightarrow e + 4$ fermion final states"

Page 102, Line 6:

"At the low momenta and in the forward direction the small detector performs slightly worse... "

It is nice if you could write the reason. I guess this is because of the higher magnetic field in the SD. Maybe it is better to use the sentence in the Higgsino section (Page 129, line 16-18), too.

Page 102 line 12-22:

From the first sentence, I understand that your sample is $Z \rightarrow 2\text{jet}$ and Z is at rest. Then I am very confused to hear that you can get a jet with 250GeV energy. Some explanations are missing, here. (The samples are $ee \rightarrow 2\text{jet}$ with different CM energy? Then flavor composition will change as a function of CME.)

Page 102 line 27-29:

“The ... degradation... can be fully recovered....”

I don't like to use the word “recover” with un-observable MC truth information.

For example, “The ... degradation ... is largely from the missing energy carried by neutrinos, as the resolution becomes similar if the energy is corrected by using the MC truth (dashed lines in Figure 8.3.d)”

Page 106, line 21

“due to its larger TPC radius” -> “due to its more data samples in TPC”

Page 108, line 8:

(Surprisingly!) this is the first time you use “PFO”, so it is better to spell it. (Actually there is already in Figure 8.3.d

Page 111, line 6: “Thereby Fig. compares ...” This sentence is hard to digest.

For example, “ Fig. compares the results for IDR-L and IDRS with the Pol(...). The results with the perfect flavor tag are also overlaid”

Page 111, line 13: “all data sets” It is not clear what “all” means.

Probably: Fig8.13A: Results with Pol (-80%, +30%)

Fig8.13B: Results with all data set you have?

Maybe you should write integrated luminosity for each plot?

Page 114, line10-11:

You don't need this paragraph, as it is repeated in page115 line8. It is rather strange to start with the discussion of 100% efficiency case.

Page 114, line 5: 2.8 -> 2.8 % or you may not need this number.

Page 122 line 17: if -> is

Page 125 Figure 8.32 A and B Figure titles are wrong! (e+R e-L -> e-R e+L)

Page 125 Figure 8.31,8.32 If possible, it is better not to plot points on the Parton level histograms. It is misleading as the points are very similar to IDR-L.

Page 128 line 13 So -> No

Page 133: Costing.

Conversion from ILCU to Euros(2018) are not uniform in the each section. Although it is a matter of 1-2 % difference it is better to make it consistent.

For example,

Page 133, line 23 (general)

“At the end the two costs are the same.”

Page 135, line 35 (TPC)

35.9 MILCU = 36.6 MEURO (2018)

Page 136 line 17

“about the same amount”

Page 137 line 14

74 = 75

Page 138 line 7

44.9 = 45.7

Page 139 line 29

6.5 = 6.6

Page 134 Table 9.1

Last digits of “Total” may not be needed.

Page 137 line 19.

“the two versions” I soon understood it refers to AHCAL and SDHCAL but I read IDR-S and IDR-L at first. I think you don’t need this sentence.