Errata

Here is a non-exhaustive list of corrections to be applied.

Last updated on October 10, 2024. (v.1.171)

Page	Correction
Ab.	"**Recognising** the systematic nature of this measurement [...]"
4	in Figure 1.1, m_{ν_μ} should be an upper bound, such as **<0.17 MeV**
	"Quarks are indicated in blue, leptons in **green**, gauge [...]"
7	"[...] **visualising** various particle interactions [...]"
13	"These decays are either $K \to \ell \nu_\ell$ or $K \to \pi \ell \nu_\ell$ labeled [...]"
18	"[...] **stabilising** its trajectory."
19	in Table 2.1, "M" should be lower case, such as "m"
21	"[...] continuing the data-taking at **Experiment** 30."
22	"[...] detect particles resulting from e^+e^- collisions."
23	"[...] nearest to the farthest from the e^+e^- interaction point."
24	"[...] a higher reconstruction **efficiency** for charged particles [...]"
	"[...] the **Vertex Detector** (VXD) and the Central [...]"
26	"[...] **utilising** double-sided strip technology for particle detection [...]"
29	"[...] aimed at **maximising** the number of detected [...]"
	"[...] at the **photo-detection** plane [...]"
33	"Prior to **utilising** these values in an average [...]"
36	"[...] aims at **minimising** the cross entropy loss function."
37	"[...] with the TOP sub-detector also contributing ~~data~~ [...]"
38	"It is worth noting that the **trigger** bits [...]"
39	in Table 2.2, d should be stay as such in "$-$**40cm** $<$ **d**z $<$ **40 cm**"

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41	in Figure 2.13, the diagram (c) should have the $\boldsymbol{u}$ and the $\boldsymbol{\bar{u}}$ switched.
42	in Table 2.3, "Generators of the main $\boldsymbol{e^+e^-}$ processes [...]"
44	in Figure 2.15, the sign of the pion should be negative, such as "$\boldsymbol{\pi^-}$"
47	"[...] and corresponds to the decay $\boldsymbol{\tau^+ \to \pi^+\pi^-\pi^+\bar{\nu}_\tau}$."
48	"[...] motivated by the fact that the decay $\boldsymbol{\tau^+ \to \pi^+\pi^+K^-\bar{\nu}_\tau}$ [...]"
49	"[...] **emphasising** its integration [...]"
	"For this reason, the decay $\boldsymbol{\tau^+ \to \pi^+\pi^-\pi^+\bar{\nu}_\tau}$ [...]"
50	"[...] highest 3-charged particles decay is $\boldsymbol{\tau^+ \to \pi^+\pi^-\pi^+\pi^0\bar{\nu}_\tau}$ [...]"
	"[...] the third is $\boldsymbol{\tau^+ \to \pi^+(\omega \to \pi^-\pi^+\pi^0)\bar{\nu}_\tau}$ with 1.949% [...]"
64	"It **demonstrates** in particular [...]"
66	"[...] and **to** the $q\bar{q}$ background level."
67	"On the contrary, the comparison with the K_s **sample** [...]"
69	"[...] and corresponds to $\boldsymbol{\tau^+ \to X^+X^-X^+\bar{\nu}_\tau}$, with [...]"
72	"Before continuing and **finalising** the selection [...]"
	"As this last **step** accomplishes a [...]"
	"Multivariate analysis techniques, **utilising** machine [...]"
75	"represents **a** random classification."
78	in Table 4.1, E_{CM} should be read as $\boldsymbol{E}_{\mathrm{CMS}}$
81	in Table 4.2, $\bigwedge\limits_{t\in\mathrm{trigg}} t$ should be "$\bigvee\limits_{\boldsymbol{t}\in\mathrm{trigg}} \boldsymbol{t}$"
84	"[...] bins correspond to 0.6, 0.8, 1.0, 1.5, 2.0, and 3.0 **GeV**/c [...]"
86	in Table 4.4, $\bigwedge\limits_{t\in\mathrm{trigg}} t$ should be "$\bigvee\limits_{\boldsymbol{t}\in\mathrm{trigg}} \boldsymbol{t}$"
87	in Table 4.5, $\bigwedge\limits_{t\in\mathrm{trigg}} t$ should be "$\bigvee\limits_{\boldsymbol{t}\in\mathrm{trigg}} \boldsymbol{t}$"
92	"[...] have to be implemented, and **comprise** [...]"
97	in Figure 4.17, it would be necessary to add that the correlation factors lower than 0.01 are omitted in the matrix.
98	in Figure 4.18, same remark as for Figure 4.17.
101	"The four consecutive modes $\tau^- \to \pi^-\pi^0\pi^0\nu_\tau$, $\boldsymbol{\tau^- \to \mu^-\bar{\nu}_\mu\nu_\tau}$ [...]"
102	in Figure 4.23, "The stacked **background** distributions [...]"

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Page	Correction
111	"[...] covariance matrix C^{sys} can **be** decomposed [...]"
112	"To avoid potential fit instabilities, we ~~we~~ want [...]"
	"~~emph~~*Either* the p-value [...]"
124	"[...] system involves **optimising** 60'000 parameters [...]"
126	"[...] correspond to $p_{\tau,\mathrm{sig}} \in [0.1, 5.6]$ **GeV**/c [...]"
131	"[...] **analysing** the corresponding up and down variations."
134	in Table 4.15, "**Summary** of uncertainties."
135	"[...] while the other factors values are **taken from** [...]"
136	"[...] not just one **but** several major studies, it will take time."
137	"[...] this aspect will **not** be necessarily revisited."
139	"[...] categorised into modeling of $\tau \rightarrow \pi\pi\pi\nu_{\tau}$ decay [...]"
169	"[...] additional ~~activities~~ activities [...]"