Errata

Physics of Collective Beam Instabilities
in High Energy Accelerators

January 2, 2026

$\boxed{\text{p.vii, Table of Contents, last line}}$

$\boxed{\text{Original text}}$ Heat-Tail

$\boxed{\text{New text}}$ Head-Tail

$\boxed{\text{p.29, Eq.(1.65)}}$

$\boxed{\text{Original text}}$ $\xi = \frac{4Q^2 r_0 \lambda}{A\beta^2 \gamma^2}$

$\boxed{\text{New text}}$ $\xi = \frac{4Q^2 r_0 \lambda}{A\beta^2 \gamma^3}$

$\boxed{\text{p.30, last line}}$

$\boxed{\text{Original text}}$ second number of Eq.(1.70).

$\boxed{\text{New text}}$ second member of Eq.(1.70).

$\boxed{\text{p.43, one line above Eq.(2.12)}}$

$\boxed{\text{Original text}}$ continuity of $\tilde{E}_z$.

$\boxed{\text{New text}}$ continuity of $\tilde{E}_s$.

$\boxed{\text{p.44, 9th line}}$

$\boxed{\text{Original text}}$ $\tilde{E}_z$

$\boxed{\text{New text}}$ $\tilde{E}_s$

$\boxed{\text{p.45, Eq. (2.17)}}$

$\boxed{\text{Original text}}$ $\frac{Z_0^{\parallel}}{L} = \frac{Z_0}{2\pi b} \frac{\tilde{E}_s}{\tilde{B}_\theta}\Big|_{r=b^-}$

$\boxed{\text{New text}}$ $\frac{Z_0^{\parallel}}{L} = -\frac{Z_0}{2\pi b} \frac{\tilde{E}_s}{\tilde{B}_\theta}\Big|_{r=b^-}$

$\boxed{\text{p.74, the horizontal scale of Fig.2.12(d)}}$

$\boxed{\text{Original text}}$ 4, 2, 0, 2, 4

$\boxed{\text{New text}}$ -4, -2, 0, 2, 4

p.92, 4th line

Original text | 25 m.

New text | 20 m.

p.100, 1st line in Eq.(2.160)

Original text | $E_S(0, 0, ct)$

New text | $E_s(0, 0, ct)$

p.103, 1st line after Eq.(2.169)

Original text | It follows from Eqs.(2.155) and (2.157) that

New text | It follows from Eq.(2.159) that

p.112, Ref.52

Original text | **SP**-14, 302 (1966).

New text | **AP**-14, 302 (1966).

p.120, 6th line from bottom

Original text | $P_{\text{parasitic}} = 8$ W.

New text | $P_{\text{parasitic}} = 6.5$ W.

p.125, Eq.(2.213)

Original text | $\Delta\mathcal{E} \approx -\frac{\omega_0 q^2 R_S}{2\pi} \ldots$

New text | $\Delta\mathcal{E} \approx -\frac{\omega_0 q^2 R_S}{\pi} \ldots$

p.140, 5th line

Original text | Eq.(3.28) becomes

New text | Eq.(3.27) becomes

p.148, 5th and 6th lines

Original text | $(n-1)$th order $\ldots (n-1)$th order $\ldots$

New text | nth order $\ldots n$th order $\ldots$

p.183, Fig.4.9

Original text (vertical scale is missing marks for $0.5 \times 10^{-2}, 0.5 \times 10^{-1}, 0.5 \times 10^{0}, 0.5 \times 10^{1}$)

p.184, one line above Eq.(4.51)
Original text amplitude
New text power amplitude

p.201, 12th line
Original text growth rate
New text growth time

p.210, Eq.(4.124)
Original text $W_0''(-kC - \frac{M-n}{M}C)$
New text $W_0''(-kC - \frac{m-n}{M}C)$

p.213, Eq.(4.133)
Original text The (2,1)-element $-\eta$
New text The (2,1)-element $-\eta C$

p.214, Eq.(4.137)
Original text $e^{-(i\bar{\omega}+\alpha)(C+z_j^{(1)}-z_j)}$
New text $e^{-(i\bar{\omega}+\alpha)(C+z_j^{(1)}-z_j)/c}$

p.218, reference 2
Original text Rev. Sci. Instr. **6**, 429 (1965).
New text Rev. Sci. Instr. **36**, 429 (1965).

p.240, 11th line
Original text is rater small
New text is rather small

p.240, one line above Eq.(5.64)
Original text In pace of
New text In place of

3

p.242, 2 lines above Fig. 5.6

Original text	a reduction of an enhancement

New text	a reduction or an enhancement

p.249, Eq.(5.98)

Original text	$\frac{\pi\gamma\omega_s}{3N_\beta r_0\beta Z\omega_0}$

New text	$\frac{\pi\gamma\omega_s}{3N_B r_0\beta_Z\omega_0}$

p.251, 3rd line from bottom

Original text	as it passes by

New text	as it passed by

p.252, Eq.(5.108)

Original text	$\frac{nr_0 c^2}{\gamma T_0}$

New text	$\frac{\eta r_0 c^2}{\gamma T_0}$

p.266, 3rd line from bottom

Original text	Equation (5.146),

New text	Equation (5.148),

On the following pages/lines, "lotus" should be replaced by "locus", as follows:

- p.236, 1st, 3rd, 5th, 7th, and 10th line from bottom

- p.259, 17th line

- p.264, 10th line

- p.266, 14th and 15th line

- p.267, 12th and 14th line from bottom

- p.268, Fig. 5.9, "lotuses" should be replaced by "loci"

p.285, Ref.17

Original text	A. Hoffman,

New text A. Hofmann,

p.309, 2nd line from bottom
Original text this mode
New text this model

p.311, 1st line after Eq.(6.116)
Original text Table 6.2 and
New text Table 6.1 and

p.314, Eq.(6.122)
Original text $\frac{3}{4}\Upsilon_1$
New text $\frac{3}{4}\Upsilon_1\omega_s$

p.328, Eq.(6.154)
Original text $e^{-\sigma^2\omega^2/\sigma^2}$
New text $e^{-\sigma^2\omega^2/c^2}$

p.336, 1st line
Original text observed as location
New text observed at location

p.338, Eq.(6.180)
Original text $\omega' \equiv p\omega_0 + \omega_\beta + \ell\omega_s.$
New text $\omega' = p\omega_0 + \Omega.$

p.341, caption of the lower-left figure
Original text $\ell = 2$
New text $\ell = 1$

p.341, Eq.(6.188)
Original text (add after equation)
New text where $\omega' = p\omega_0 + \omega_\beta + \ell\omega_s.$

p.347, Fig.6.33

Original text (add figure labels)

New text (a) for the upper figure, (b) for the lower figure

p.358, Ref.42

Original text SSCL Report 606 (1992).

New text Part. Accel. **43**, 77 (1993).

p.368, right column

Original text Impedance, resonator, broad-band, $m = 1$ 90

New text Impedance, resonator, broad-band, $m = 1$ 89