

# ERRATA

## Physics of Collective Beam Instabilities in High Energy Accelerators

April 15, 2001

|                                     |           |
|-------------------------------------|-----------|
| p.vii, Table of Contents, last line |           |
| Original text                       | Heat-Tail |
| New text                            | Head-Tail |

|                 |   |
|-----------------|---|
| p.29, Eq.(1.65) |   |
| Original text   | $\xi = \frac{4Q^2 r_0 \lambda}{A \beta^2 \gamma^2}$ |
| New text        | $\xi = \frac{4Q^2 r_0 \lambda}{A \beta^2 \gamma^3}$ |

|                 |                             |
|-----------------|-----------------------------|
| p.30, last line |                             |
| Original text   | second number of Eq.(1.70). |
| New text        | second member of Eq.(1.70). |

|                                |                               |
|--------------------------------|-------------------------------|
| p.43, one line above Eq.(2.12) |                               |
| Original text                  | continuity of $\tilde{E}_z$ . |
| New text                       | continuity of $\tilde{E}_s$ . |

|   |                 |
|---|-----------------|
| p.74, the horizontal scale of Fig.2.12(d) |                 |
| Original text                             | 4, 2, 0, 2, 4   |
| 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 | <b>SP-14</b> , 302 (1966). |
| New text      | <b>AP-14</b> , 302 (1966). |

|                             |   |
|-----------------------------|---|
| p.120, 6th line from bottom |   |
| Original text               | $P_{\text{parasitic}} = 8 \text{ W.}$   |
| New text                    | $P_{\text{parasitic}} = 6.5 \text{ W.}$ |

|                   |  |
|-------------------|--|
| p.125, Eq.(2.213) |  |
| Original text     | $\Delta\mathcal{E} \approx -\frac{\omega_0 q^2 R_S}{2\pi} \dots$ |
| New text          | $\Delta\mathcal{E} \approx -\frac{\omega_0 q^2 R_S}{\pi} \dots$  |

|                 |                   |
|-----------------|-------------------|
| 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 ... $(n-1)$ th order... |
| New text                 | $n$ th order ... $n$ th order...         |

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

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.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

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.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),

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