typos in MATH 583A&B class notes

2016-08-24, 12:24

On the right is the cover of the class notes that I have. If you have some other version, and the page numbering seems to be different — please tell me.

Thanks to: Dwight Nwaigwe, Kenneth Plackowski, Kenneth Yamamoto.

cover

\[ \text{MATH 583A} \rightarrow \text{MATH 583A&B} \]

page 235

near the top of the page:

\[ B_0 = \frac{2}{L} \int_0^L f(x) dx \rightarrow B_0 = \frac{1}{L} \int_0^L f(x) dx \]

page 241

in 2 places: \( T : H \rightarrow \mathbb{R} \rightarrow T : H \rightarrow \mathbb{C} \) — no need to bound ourselves to reals, and in the beginning of the page 243 complex conjugates do appear.

page 246

near the top of the page:

\[ \left| -v(x)u'(x) + v'(x)u(x) \right|_0^1 \rightarrow \left| ( -v(x)u'(x) + v'(x)u(x) ) \right|_0^1 \]

next row:

\[ + u'(1)v(1) \rightarrow - u'(1)v(1) \]

after “with the associated domain is”:

\[ v(0) = 0 \rightarrow v(1) = 0 \]

page 250

near the middle of the page:

\[ s \rightarrow 0 \rightarrow \sigma \rightarrow 0 \]

page 263

not a typo, but a simpler proof of Theorem 7: Assume \( \lambda \) is in the residual spectrum of \( L \). Then (by Theorem 6) \( \bar{\lambda} \) is an eigenvalue of \( L^* = L \). Then (by the consequence of the proof of Theorem 5) \( \lambda \) is real, so \( \lambda = \bar{\lambda} \) is an eigenvalue of \( L \), i.e., it is in the point spectrum of \( L \).

proof of Theorem 7:

\[ y \in \mathcal{N}(L - \lambda) \rightarrow y \in \mathcal{N}(L^* - \bar{\lambda}) \] — although \( L^* = L \) here, anyway.
footnote 72: \( k \neq 1 \rightarrow k > 0 \) — otherwise rank is never equal to 1, which is the rank of “not generalized” eigenvectors

**page 264**

beginning of 6.5.2: domain of \( S \) \( \rightarrow \) range of \( S \)

**page 265**

\( \sigma_p(S) = \{0\} \rightarrow \sigma_p(S) = {} \) \{0\} usually means “a set with one element, namely 0”.

**page 267**

near the bottom of the page: centered on \( \lambda = 1 \) \( \rightarrow \) centered on \( \lambda = 0 \)

near the bottom of the page: shows that \( |\lambda| > 0 \) \( \rightarrow \) shows that \( |\lambda| > 1 \)

**page 277**

(7.7): \( \int_0^x \rightarrow \int_a^x \)

(7.9): \( (\xi - x) \rightarrow (x - \xi) \)

**page 278**

end of 7.1: Section 1.3 \( \rightarrow \) Section 7.3

(7.18): \( f(t)dt \rightarrow f(\tau)d\tau \)

**page 281**

near the top of the page: Sturm Liouville \( \rightarrow \) Sturm–Liouville

**page 283**

near the middle of the page: Sturm Liouville \( \rightarrow \) Sturm–Liouville

before (7.49): Heaveside \( \rightarrow \) Heaviside

**page 290**

(7.85): \( pu'' + p'u + qu \rightarrow pu'' + p'u' + qu \)
near the top of the page: $Lu = f \quad \rightarrow \quad Lu = g$

the very bottom of the page: $\frac{1}{2} \xi^2 + c_1 \quad \rightarrow \quad \frac{1}{2} \xi^2 + c_1$

right after (7.165): $\int_\xi^x K_\gamma dx \quad \rightarrow \quad \int_\xi^1 K_\gamma dx$

footnote 85: $K_2'_{\mid x = \xi} \quad \rightarrow \quad K_2'_{\mid x = \xi}$

between (7.189) and (7.190): sides of (192) $\quad \rightarrow \quad$ sides of (189)

after (8.21): $(1 - \lambda \alpha_{11} c_1) \quad \rightarrow \quad (1 - \lambda \alpha_{11}) c_1$

near the bottom of the page: $\left( \begin{array}{c} \frac{1}{2} \\ \frac{1}{3} \end{array} \right) \quad \rightarrow \quad \left( \begin{array}{c} \frac{1}{2} \\ \frac{1}{3} \end{array} \right)$

(8.39): $\frac{\lambda_m}{\lambda_m} \int_a^b u_m(\xi) \quad \rightarrow \quad \frac{\lambda_m}{\lambda_m} \int_a^b u_m(\xi)$

the very bottom of the page: $\frac{\lambda_m}{\lambda_m} \int_a^b \quad \rightarrow \quad \frac{\lambda_m}{\lambda_m} \int_a^b$

after (8.62): powers of $\lambda$ $\quad \rightarrow \quad$ powers of $\mu$

near the top of the page: compact $\quad \rightarrow \quad$ compact

upper half of the page: $T = \lim_{n \to \infty} T_n$ — we have $\|T_{n+1} - T_n\| = 1$, so there is no limit here.
page 347

(9.16): \[ \frac{\partial L}{\partial q} \rightarrow \frac{\partial L}{\partial q} \delta q \]

page 351

(9.42): \[ y^2 x \rightarrow y^2 \]

page 354

near the top of the page: \[ \left[ \frac{\delta L}{\delta q} \right]_{t_1}^{t_2} \rightarrow \left[ \frac{\delta L}{\delta q} \right]_{t_1}^{t_2} \]

(9.54): \[ \left[ \frac{\delta f}{\delta y_x} \right]_{x_1}^{x_2} \rightarrow \left[ \frac{\delta f}{\delta y_x} \right]_{x_1}^{x_2} \]

page 358

\[ f(k; a) = e^{ka} + e^{-ka} \rightarrow f(k; a) = \frac{(e^{ka} + e^{-ka})}{2} \]

page 360

(9.75) and (9.76): \[ \frac{\delta F}{\delta n} \rightarrow \frac{\delta F}{\delta u} \]

page 361

in the paragraph after (9.81): \[ [v] \rightarrow [v] \]

page 363

near the top of the page: \[ (\delta u)_y \rightarrow (\delta u)_y \]

page 375

(9.162): \[ \sum_i p_i dq_i + \dot{q}_i dp_i - \frac{\partial L}{\partial \dot{q}_i} dq_i - \frac{\partial L}{\partial q_i} dq_i - \frac{\partial L}{\partial t} dt \rightarrow \sum_i \left( p_i d\dot{q}_i + \dot{q}_i dp_i - \frac{\partial L}{\partial \dot{q}_i} dq_i - \frac{\partial L}{\partial q_i} dq_i \right) - \frac{\partial L}{\partial t} dt \]

page 376

the lower half of the page: \[ the 20^{th} century \rightarrow the 20^{th} century \]