

13

Errata (April, 2025)

With regret, I have to mention the following errors:

- p. 58: Last formula, “ $q(x) = \frac{c_A(x)}{x-r} = \prod_{j=2}^N (\lambda_k(A) - x)$ ” should be “ $q(x) =$

$$\frac{c_A(x)}{x-r} = \prod_{k=2}^N (\lambda_k(A) - x)$$

- p. 182: Equation $\Omega p = 2 \left(\frac{\zeta^T \tilde{Q} \zeta}{4} + R_G \right) u$ should be $\Omega p = 2 \left(\frac{\zeta^T \tilde{Q} \zeta}{4} + \frac{R_G}{N^2} \right) u$ and consequently, $\frac{\zeta^T \tilde{Q} \zeta}{4} + R_G = \sigma^2$ should be $\frac{\zeta^T \tilde{Q} \zeta}{4} + \frac{R_G}{N^2} = \sigma^2$.
- p. 292: in the last formula, the summation index should be another letter than k in order not to confuse with A^k :

$${}_k D = \frac{\sum_{j=1}^N (v_j^T A^k u)^2 \rho_j}{u^T A^{2k} u} = \frac{(v_1^T A^k u)^2}{u^T A^{2k} u} \rho_1 - \sum_{j=2}^N \frac{(v_j^T A^k u)^2}{u^T A^{2k} u} |\rho_j| \leq \frac{(v_1^T A^k u)^2}{\sum_{j=1}^N (v_j^T A^k u)^2} \rho_1$$

- p. 307: the display

$$y = \alpha_1 \begin{bmatrix} 1 \\ 0 \\ \vdots \\ 0 \end{bmatrix} + \alpha_2 \begin{bmatrix} 0 \\ 1 \\ \vdots \\ 0 \end{bmatrix} + \alpha_n \begin{bmatrix} 0 \\ 0 \\ \vdots \\ 1 \end{bmatrix}$$

should be

$$y = \alpha_1 \begin{bmatrix} 1 \\ 0 \\ \vdots \\ 0 \end{bmatrix} + \alpha_2 \begin{bmatrix} 0 \\ 1 \\ \vdots \\ 0 \end{bmatrix} + \cdots + \alpha_n \begin{bmatrix} 0 \\ 0 \\ \vdots \\ 1 \end{bmatrix}$$

- p. 333: footnote, “...one way as sum of two squares.” should be “...one way as a sum of two squares.”
- p. 361: “...the first orthogonality relation (A.124) becomes...” should be “...the second orthogonality relation (A.126) becomes...”.

- p. 406: in Lemma 14: “... the zeros

$$z_1 = \frac{A}{2} \left(1 + \sqrt{1 - \frac{4}{AB}} \right) \text{ and } z_1 = \frac{A}{2} \left(1 - \sqrt{1 - \frac{4}{AB}} \right)$$

should be

$$z_1 = \frac{A}{2} \left(1 + \sqrt{1 - \frac{4}{AB}} \right) \text{ and } z_2 = \frac{A}{2} \left(1 - \sqrt{1 - \frac{4}{AB}} \right)$$

- p. 454: line 9 from bottom: “... we arrive at Shur’s inequality,...” should be “... we arrive at Schur’s inequality,...”
- p. 495: “...after replacing x_1 and x_2 .” should be “...after replacing x_1 and x_0 .”