

# List of corrections for Iterative Krylov Methods for Large Linear Systems

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## corrections

- page 16: The final formula in Theorem 2.1 should read:

$$\frac{\|y - x\|_2}{\|x\|_2} \leq \frac{2\epsilon}{1 - r} \kappa_2(A).$$

- page 39: the  $\epsilon_2$  in the last matrix should be an  $\epsilon_1$
- page 58: Figure 5.5: The formula for  $\alpha_i$  should read

$$\alpha_i = \rho_{i-1} / q_i^T q_i$$

- page 63, line 10: the shifted subspace should read  $x_0 + K^i(A^T A, A^T r_0)$
- page 66, formula (6.2) should read

$$\begin{aligned} \|H_{i+1,i} y - \|r_0\|_2 e_1\|_2 &= \|Q_{i+1,i+1} R_{i+1,i} y - \|r_0\|_2 e_1\|_2 \\ &= \|R_{i+1,i} y - Q_{i+1,i+1}^T \|r_0\|_2 e_1\|_2, \end{aligned}$$

with  $r_{i+1,i} = 0$ .

- page 67, Figure 6.1: After the formula for  $\delta$ , there should be a period (,) preceding the  $c_i$   
Two lines lower: The two  $\hat{b}_i$ 's should be separated by a period (,)
- page 68, Figure 6.2: 5 lines above the label "SOL":  
the two  $\hat{b}_i$ 's should be separated by a period (,)
- page 85: The last (unnumbered) formula should read:

$$L^{-1} A L^{-T} \tilde{x} = L^{-1} b, \quad \text{with } x = L^{-T} \tilde{x}.$$

- page 103, Formula (7.7) should read:

$$Q_{i-1}(A)^2 = P_{i-1}(A)^2 + \beta_{i-1}^2 Q_{i-2}(A)^2 + 2\beta_{i-1} P_{i-1}(A) Q_{i-2}(A).$$

- page 104, Figure 7.3, line 6: The formula for  $\rho_{i-1}$  should read:

$$\rho_{i-1} = \tilde{r}^T r_{i-1}$$

- page 134, end line 6, start of line 7: .... is to minimize  $\|r_j\|_2$ , with respect  
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