List of corrections for
Iterative Krylov Methods for Large Linear
Systems

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January 17, 2007

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
\[ \alpha_i = \rho_i - 1/\rho_i^T q_i \]

• 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
\[
\|H_{i+1, i} y - \|r_0\|_2 e_1\|_2 = \|Q_{i+1, i+1} R_{i+1, i} y - \|r_0\|_2 e_1\|_2 = \|R_{i+1, i} y - Q_{i+1, i+1}^T r_0\|_2 e_1\|_2, \\
\text{with } r_{i+1, i} = 0. 
\]

• 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:
\[ L^{-1} A L^{-T} \tilde{x} = L^{-1} b, \text{ with } x = L^{-T} \tilde{x}. \]
• 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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