Errata to *Numerical Solution of Polynomial Systems Arising in Engineering and Science*

Andrew Sommese and Charles Wampler

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We would like to thank all the people who have found the below mistakes.

1. Z_{Sing} is used interchangeably with $\text{Sing}(Z)$.
2. Page 4, in the first line after the equation: "...left-had side..." should be "...left-hand side..."
3. Page 8, 3rd line from bottom: "stands irreducible algebraic set" should be "stands for irreducible algebraic set."
4. Page 35, line 8. Remove the line about multihomogenizing. Multihomogeneity is not defined until further down the page and multihomogenizing is explained on page 36.
5. Page 40, Fig. 3.3, left subfigure: There are two vertical line segments that shouldn't be there (they emanate from the startpoints).
6. Page 41, 4th line from bottom, the mapping should go to $(u_1/u_0, v_1/v_0)$ (and not to $(u_1/u_0, v_1, v_0)$.
7. Page 44, 2nd paragraph. The remark that $Z \setminus Z_{\text{Sing}}$ is affine if Z is an irreducible affine N-dimensional algebraic set and Z_{Sing} is pure $(N-1)$-dimensional is only true if Z_{Sing} is the reduction of a Cartier divisor.
8. Page 73 starting on the 15th line. "Then, the condition that the polynomials have a common root is again a resultant polynomial..." should be "Then, the condition that the polynomials have a common root is again equivalent to the vanishing of a resultant polynomial..."

9. Page 98, The first paragraph in section 7.2 ends with "in the introduction to Part II." This should be "in the introduction to Chapter 2."

10. Page 100, seventh line from bottom. It would be clearer to replace "$(a, b, c)_1$" with "(a_1, b_1, c_1)."

11. Page 101, seventh line. Not "(a_1, b_1, c_1) = to the target $(a, b, c)_0$" but "$(a_1, b_1, c_1) = (5\alpha, 4\alpha, 3\alpha)$ to the target (a_0, b_0, c_0)"

12. Page 101, line 12: "is complex" should be "are complex."

13. Page 107, second paragraph, line 3: "next chapter" should be "Chapter 9."

14. Page 110. Omit the first sentence.

15. Page 126, the roots in the line after Eq. (8.4.5) should be $[W, X, Y] = [\pm 1, 1, 1]$.

16. Page 126, the root in the second line after Eq. (8.4.5) should be $[W, X, Y] = [0, 0, 1]$.

17. page 155, Equation 9.3.23 is incorrect. It should read:

$$\begin{aligned} f_i(e, g) \;=\; & (b_i b_i' - b_1 b_1' + a_i a_i' - a_1 a_1' - L_i 2 + L_1 2) e e' \\ & + (g(b_i' - b_1') e' + e(b_i - b_1) g') - (g e'(a_i' - a_1') + (a_i - a_1) e g') \\ & - (e b_i e' a_i' + a_i e b_i' e') + (e b_1 e' a_1' + a_1 e b_1' e') = 0, \qquad i = 2, \ldots, 6 \end{aligned}$$

This does not affect the subsequent root counts, as the monomials involved are still the same.

18. On page 210, line 4, remove one 'have that.'

19. On page 217, line 7, replace 'curve is resembles...' with 'curve resembles...'

20. On page 223, line 18, replace 'multiplicities of the solutions...' with 'multiplicity of each solution...'

21. Eight lines from the bottom of p. 236 we say that "reduced is synonymous with multiplicity-one." This is not quite true. Reduced implies multiplicity one and is "generically" synonymous with multiplicity-one, i.e., the nonreduced subset of an irreducible component is a proper subset if and only if the multiplicity of the component is one. The simplest example is given by $V(x^2, xy)$ on $\mathbb{C}^2$. The y axis has multiplicity one, but the origin is a nonreduced point.

22. Page 281. Move the first sentence of paragraph 3 to the beginning of paragraph 2. In paragraph 2, two mentions of g should be replaced by λ.