

Errata for *Optical Imaging and Aberrations, Part III: Wavefront Analysis*

- p. 58, last line of paragraph 2: Add at the end: “i.e., in the plane at a distance of $8F^2A_s$.”
- p. 59, first line: The term “ $4F^2A_s$ ” should read “ $4F^2A_\sigma$ ”.
- p. 124, Table 5-6: In the polynomial for $n = 4$, $m = 2$, the superscript 1/2 in the denominator should be outside the curly brackets.
- p. 372, Eqs. (14-2) and (14-3): Before each integral, there should be $\frac{1}{\pi}$.
- p. 379, Table 14-2: The table has been reordered to match that of Table 4-4, consistent with the values presented in Figs. 14-5 and 14-6.

Table 14-2. Orthonormal Zernike aberration coefficients of a normal human eye, where the coefficients are ordered as the Zernike polynomials.

j	a_j	j	a_j	j	a_j
1	0.0000	13	0.0217	25	-0.0031
2	-0.8236	14	0.0121	26	-0.0020
3	-0.8680	15	-0.0165	27	0.0151
4	-1.6749	16	0.0122	28	0.0188
5	0.9368	17	-0.0155	29	-0.0078
6	-0.3168	18	-0.0283	30	-0.0059
7	-0.0107	19	0.0344	31	-0.0062
8	-0.2984	20	0.0264	32	0.0029
9	-0.0679	21	-0.0263	33	-0.0037
10	0.3711	22	-0.0138	34	-0.0228
11	-0.2080	23	-0.0024	35	0.0151
12	-0.0294	24	-0.0195	36	0.0296

p. 383, Eq. (14-12): Before the integral, there should be $\frac{1}{\pi}$.

p. 384, Eq. (14-18): Before the integral, there should be $\frac{1}{\pi}$.

p. 384, Eq. (14-19): The equation should read

$$\sigma_j^2 = \langle (a_j - \tilde{a}_j)^2 \rangle = \frac{1}{2} \langle \int \vec{n}(x, y) \cdot \vec{V}_j(x, y) dx dy \int \vec{n}(x', y') \cdot \vec{V}_j(x', y') dx' dy' \rangle$$

p. 384, Eq. (14-20): The equation should read

$$\sigma_j^2 = \frac{1}{\pi^2} \iint \langle \vec{n}(x, y) \cdot \vec{n}(x', y') \rangle \vec{V}_j(x, y) \cdot \vec{V}_j(x', y') dx dy dx' dy' = \frac{n^2}{\pi^2} \iint |\vec{V}_j(x, y)|^2 dx dy$$

p. 384, after Eq. (14-19): The line should read “Assuming uncorrelated random Gaussian noise with zero mean and covariance $\langle \vec{n}(x, y) \cdot \vec{n}(x', y') \rangle = \sigma_n^2 \delta(x - x', y - y')$, where σ_n^2 is the noise variance, and the variance associated with the estimated coefficient is given by [13]”

p. 388, Eq. (14-21): Before the integral, there should be $\frac{1}{\pi}$. After the equation, the following text should replace the end of the sentence: “where W is in units of λ , x and y are normalized by the pupil radius a , and the standard deviation or spot sigma σ_s is in units of $2\lambda F$ for a focal ration $F = f/2a$ of the image-forming light cone.”

p. 389, Eq. (14-29): The end of the line before the equation should read: “...can be obtained by comparing Eqs. (14-1) and (4-22) and utilizing Eqs. (14-27) and (14-28). Thus,”

The top equation should say $n = m$ and be numbered (14-29a); the bottom equation should say $n \neq m$ and be numbered (14-29b).

p. 389–390, Table 14-5: Remove the word “Orthonormal” from the caption.

The polynomial for line $j = 22$ can be simplified to $(1/\sqrt{6})(10\rho^6 - 18\rho^4 + 9\rho^2 - 1)$.