Errata to SPIE Vol. TT32 (First Printing):

Design and Mounting of Prisms and Small Mirrors in Optical Instruments
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p. 128 Eqs. (7.2) through (7.4) should read:

$$\Delta = \left(K_A - K_B\right) P \big/ t^3 ,$$

$$\text{where } K_A = \frac{3\left(m^2 - 1\right)\left[a^4 - b^4 - 4a^2 b^2 \ln\left(a/b\right)\right]}{4\pi m^2 E_M a^2},$$

$$K_B = \frac{\left[3\left(m^2 - 1\right)\left(m + 1\right)\right]\left[2\ln\left(a/b\right) + \left(b^2/a^2\right) - 1\right]\left[b^4 + 2a^2 b^2 \ln\left(a/b\right) - a^2 b^2\right]}{\left(4\pi E_M m^2\right)\left(b^2\right)\left(m+1\right) + \left(a^2\right)\left(m-1\right)},$$

pp 128–129 **Numerical Example No. 28** should read:

Consider a 15.75-in. (400.05-mm) diameter mirror for a telescope that is to be held in place with a total preload P of 380 lb (1690.3 N) distributed uniformly around the edge of the mirror by a 6061 aluminum flange with ID of 15.500 in. (393.7 mm) and OD of 15.750 in. (400.050 mm). The pertinent parameters are as follows:

a = (15.750/2) = 7.875 in. (200.025 mm)
b = 15.50/2 = 7.750 in. (196.850 mm)
Assume: t = 0.008 in. (0.203 mm)
$E_M = 9.9 \times 10^6$ lb/in.^{2} (6.82×10^{10} N/m^2)
m = 1/0.332 = 3.012

From Eqs. (7.2), (7.3), and (7.1):

$$K_A = \frac{3\left(3.012^2 - 1\right)\left[7.875^4 - 7.750^4 - (4)(7.875^2)(7.750^2)\ln\left(7.875/7.750\right)\right]}{(4\pi)\left(9.9\times10^6\right)\left(3.012^2\right)\left[(7.750^2)(4.102) + \left(7.875^2\right)(2.012)\right]}$$

$$= 1.408 \times 10^{-11}$$

$$K_B = \frac{\left[3\left(3.012^2 - 1\right)\left(3.012 + 1\right)\right]\left[2\ln\left(7.875/7.750\right) + \left(7.875^2/7.750^2\right) - 1\right]}{\left[(4\pi)\left(9.9\times10^6\right)\left(3.012^2\right)\right]\left[\left(3.012+1\right) + \left(7.875^2\right)\left(3.012-1\right)\right]}\left[7.750^4 + (2)\left(7.875^2\right)7.750^2\ln\left(7.875/7.750\right) - \left(7.875^2\right)\left(7.750^2\right)\right],$$

$$= 2.250 \times 10^{-13}$$

$\Delta = (1.408 \times 10^{-11} - 2.250 \times 10^{-13})(380/0.008^3) = 0.0103$ in. (0.262 mm)

This displacement is large enough to be measured with reasonable accuracy so the preload can be expected to be close to the desired value.