Corrections to "Scattering Parameter Characterization of Microwave Optoelectronic Devices and Fiber-Optic Networks"

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In the above letter,[1] p. 234 contains three errors. At the end of the first column, the element in the first column and second row of $R_{T\,\mathrm{dut}}$ should read:

$$-(kr)^{-1}S'T_1' + (pr)^{-1}T_3'.$$

[1] S. Iezekiel, C. M. Snowden, and M. J. Howes, *IEEE Microwave Guided Wave Lett.*, vol. 1, no. 9, pp. 233–235, Sept. 1991.

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The expression for S' in the second column should read:

$$S' = \frac{S_{22\mathrm{E/O}}}{S_{12,\mathrm{E/O}}S_{21,\mathrm{E/O}}}.$$

The expression given for ks/pr, in the second column, was inadvertently taken from the optical calibration theory. The correct expression for the optoelectronic calibration is:

$$\frac{ks}{pr} = \frac{-R_{11,\mathrm{M3}} + \bar{c}R_{12,\mathrm{M3}} + \bar{b}R_{21,\mathrm{M3}} - \bar{b}\bar{c}R_{22,\mathrm{M3}}}{R_{11,\mathrm{M3}} - \bar{d}R_{12,\mathrm{M3}} - \bar{a}R_{21,\mathrm{M3}} + \bar{a}\bar{d}R_{22,\mathrm{M3}}} \frac{1}{S_{12,\mathrm{E/O}}S_{21,\mathrm{E/O}}},$$

where $R_{i,j,\mathrm{M3}}$ are the measured elements of the wave cascading matrix of **E03** and $S_{i,j,\mathrm{E/O}}$ are the actual S-parameters of the network **E/O**. It has also come to light that the sign ambiguity in the values of ks and pr can be resolved by measuring the optical standard **O3** with the calibrated optical network analyzer set-up. No estimate of the phase of $S_{11,\mathrm{EO3}}$ is required. Hence, the optoelectronic calibration procedure is actually more robust than originally thought. The rest of the letter was not affected by these errors.