Corrigendum for "Urban background noise mapping: the general model"

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A few typos in [1] were found and corrected in the current corrigendum. When applying the Hurwitz-Lerch transcendent, the power of the reflection coefficients ρ_s and ρ_r should be 6 instead of 2. The correction formula for multiple reflections is based on simulations with a reflection coefficient 0.97, which is very close to 1. Therefore, the conclusions in the published article will not be affected and the plot related to equation (14) Figure (7) is still correct. However, errors would increase when the façades are more absorbing. The corrected equations are given below:

Equation (14) is corrected as:

$$\begin{aligned} A_{can,flat} \approx & -F(0)10\log_{10}\left[F(1)\frac{C_{1s}\rho_s^6R^2}{(C_{3s}+W_s)^2}10^{0.1L_{hs}}+F(2)\frac{C_{1r}\rho_r^6R^2}{(C_{3r}+W_r)^2}10^{0.1L_{hr}}\right. \\ & + \left. F(3)\frac{\rho_s^6\rho_r^6R^2}{(3.31h_1/\sqrt{\lambda}+C)(3.31h_2/\sqrt{\lambda}+C)}10^{0.1L_{hs}}10^{0.1L_{hr}}\right] \end{aligned}$$

The texts below equation (14) changes from $F(1)C_{1s}\rho_s^2 10^{0.1L_{hs}}$, $F(2)C_{1r}\rho_r^2 10^{0.1L_{hr}}$ and $F(2)\rho_s^2\rho_r^2 10^{0.1L_{hs}}10^{0.1L_{hr}}$ to $F(1)C_{1s}\rho_s^6 10^{0.1L_{hs}}$, $F(2)C_{1r}\rho_r^6 10^{0.1L_{hr}}$ and $F(3)\rho_s^6\rho_r^6 10^{0.1L_{hs}}10^{0.1L_{hr}}$

Equation (A13) is corrected as:

$$\sum_{i=j}^{\infty}\sum_{i=1}^{\infty}|p_{i,j}|^2 = 10^{0.1L_{hs}}10^{0.1L_{hr}}\left|\frac{A}{4\pi}\right|^2\sum_{j=1}^{\infty}C_{1s,j}\frac{\rho_s^2\rho_r^{2j}}{W_s^2}\Phi\left(\rho_s^2,2,\frac{C_{3s,j}+W_s}{W_s}\right)$$

Equation (A14) is corrected as:

$$\sum_{i=j}^{\infty}\sum_{i=1}^{\infty}|p_{i,j}|^2 = 1.59\rho_s^6 10^{0.1L_{hs}}10^{0.1L_{hr}}\left|\frac{A}{4\pi}\right|^2\sum_{j=1}^{\infty}\left(\frac{0.37}{\sqrt{\frac{2r_{r,j}}{\lambda}\frac{\sqrt{3}}{2}}\cos\phi_{r,j}+0.37}\right)^2\left(\frac{1}{C_{3s,j}+W_s}\right)^2$$

Equation (A15) is corrected as:

$$\begin{aligned}\sum_{i=j}^{\infty}\sum_{i=1}^{\infty}|p_{i,j}|^2 &< 1.59\rho_s^6\left|\frac{A}{4\pi}\right|^2 10^{0.1L_{hs}}10^{0.1L_{hr}}\sum_{j=1}^{\infty}\left(\frac{1}{C_{3s,j}+W_s}\right)^2\\ &= \left|\frac{A}{4\pi}\right|^2 10^{0.1L_{hs}}10^{0.1L_{hr}}1.59\rho_s^6\frac{\rho_r^2}{W_r^2}\Phi\left(\rho_r^2,2,\frac{3.31h_1/\sqrt{\lambda}+1.5W_s+W_i+1.5W_r}{W_r}\right)\\ &\approx \left|\frac{A}{4\pi}\right|^2 10^{0.1L_{hs}}10^{0.1L_{hr}}\rho_s^6\rho_r^6\left(\frac{1.59}{3.31h_1/\sqrt{\lambda}+1.5W_s+W_i+1.5W_r}\right)^2\end{aligned}$$

Equation (A16) is corrected as:

$$\sum_{i=j}^{\infty}\sum_{i=1}^{\infty}|p_{i,j}|^2 \approx \left|\frac{A}{4\pi}\right|^2\frac{(1.59)^2\rho_s^6\rho_r^6 10^{0.1L_{hs}}10^{0.1L_{hr}}}{(3.31h_1/\sqrt{\lambda}+1.5W_s+W_i+1.5W_r)(3.31h_2/\sqrt{\lambda}+1.5W_s+W_i+1.5W_r)}$$

References

[1] W. Wei, D. Botteldooren, T. Van Renterghem, M. Hornikx, J. Forssén, E. Salomons and M. Ögren. Urban background noise mapping: the general model *Acta Acust. Acust.*, 100(6):1098-1111, 2014