Erratum

A Combined Doppler Scale Estimation Scheme for Underwater Acoustic OFDM System

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The following are corrections to errors in the published paper:

(1) On page 5, Eq. (6) was printed as

$$R_1[k] = d[k]H[k] \frac{\sin(\pi ka)}{N \sin\left(\frac{\pi ka}{N}\right)} \exp\left[j\pi ka \left(\frac{1}{N}\right)\right] \\ + \xi_1[k] + W_1[k], \quad k = K_1, K_1 + 1, \dots, K_2, \quad (6)$$

but it should be read as

$$R_1[k] = d[k]H[k] \frac{\sin(\pi ka)}{N \sin\left(\frac{\pi ka}{N}\right)} \exp\left[j\pi ka \left(\frac{N-1}{N}\right)\right] \\ + \xi_1[k] + W_1[k], \quad k = K_1, K_1 + 1, \dots, K_2, \quad (6)$$

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(2) On page 5, Eq. (8) was printed as

$$\Psi[k, m] = \frac{\sin\{\pi[m(1+a) - k]\}}{\sin\left\{\frac{\pi[m(1+a) - k]}{N}\right\}} \exp\left\{j\pi[m(1+a) - k] \left(\frac{1-1}{N}\right)\right\},$$

$$k = K_1, K_1 + 1, \dots, K_2. \quad (8)$$

but it should be read as

$$\Psi[k, m] = \frac{\sin\{\pi[m(1+a) - k]\}}{\sin\left\{\frac{\pi[m(1+a) - k]}{N}\right\}} \exp\left\{j\pi[m(1+a) - k] \left(\frac{N-1}{N}\right)\right\},$$

$$k = K_1, K_1 + 1, \dots, K_2. \quad (8)$$

(3) On page 5, Eq. (9) was printed as

$$R_2[k] = d[k]H[k] \frac{\sin(\pi ka)}{N \sin\left(\frac{\pi ka}{N}\right)} \exp\left[j\pi ka \left(\frac{3-1}{N}\right)\right]$$

$$+ \xi_2[k] + W_2[k], \quad k = K_1, K_1 + 1, \dots, K_2. \quad (9)$$

but it should be read as

$$R_2[k] = d[k]H[k] \frac{\sin(\pi ka)}{N \sin\left(\frac{\pi ka}{N}\right)} \exp\left[j\pi ka \left(\frac{3N-1}{N}\right)\right]$$

$$+ \xi_2[k] + W_2[k], \quad k = K_1, K_1 + 1, \dots, K_2. \quad (9)$$

(4) On page 6, Eq. (12) was printed as

$$\text{SIR}_1[k] = d[k]H[k] \frac{\sin(\pi ka) \exp\left[j\pi ka \left(\frac{1-1}{N}\right)\right]}{\sin\left(\frac{\pi ka}{N}\right) \sum_{m=0, m \neq k}^{N-1} \bar{d}[m]H[m]\Psi[k, m]}, \quad k = K_1, K_1 + 1, \dots, K_2.$$

$$(12)$$

but it should be read as

$$\text{SIR}_1[k] = d[k]H[k] \frac{\sin(\pi ka) \exp\left[j\pi ka \left(\frac{N-1}{N}\right)\right]}{\sin\left(\frac{\pi ka}{N}\right) \sum_{m=0, m \neq k}^{N-1} \bar{d}[m]H[m]\Psi[k, m]}, \quad k = K_1, K_1 + 1, \dots, K_2.$$

$$(12)$$

- (5) On page 7, Eq. (19) was printed as

$$\tilde{r}(t) = \tilde{r} \left(\frac{t+T}{(1+a)} \right), \quad t \in \left[\frac{0, T_{cp}}{(1+a)} \right]. \quad (19)$$

but it should be read as

$$\tilde{r}(t) = \tilde{r} \left(t + \frac{T}{1+a} \right), \quad t \in \left[0, \frac{T_{cp}}{1+a} \right]. \quad (19)$$

- (6) On page 17, Reference 7 should be read as

7. M. Johnson, L. Freitag and M. Stojanovic, Improved Doppler tracking and correction for underwater acoustic communications, in *Proc. IEEE Int. Conf. on Acoustics, Speech, and Signal Processing*, DC, USA (1997).

- (7) On page 17, Reference 13 should be read as

13. B.-C. Kim and I.-T. Lu, Parameter study of OFDM underwater communications system, in *Proc. MTS/IEEE OCEANS Conf.*, Providence, RI, USA (2000).

- (8) On page 17, Reference 14 should be read as

14. M. Stojanovic, Low complexity OFDM detector for underwater acoustic channels, in *Proc. MTS/IEEE OCEANS Conf.*, Boston, USA (2006).

- (9) On page 17, Reference 16 should be read as

16. M. Sliskovic, Sampling frequency offset estimation and correction in OFDM systems, in *Proc. IEEE Int. Conf. Electronics, Circuits and Systems*, Malta (2001).

- (10) On page 17, Reference 17 should be read as

17. S. Boumard, Novel noise variance and SNR estimation algorithm for wireless MIMO-OFDM systems, in *Proc. IEEE Global Telecommunications Conf.*, San Francisco, CA, USA (2003).