Corrigendum

Corrigendum to “Log-PF: Particle Filtering in Logarithm Domain”

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In the article titled “Log-PF: Particle Filtering in Logarithm Domain” [1], there were minor typographical errors in Algorithm 4, which should be corrected as follows.

References

- [1] C. Gentner, S. Zhang, and T. Jost, “Log-PF: particle filtering in logarithm domain,” *Journal of Electrical and Computer Engineering*, vol. 2018, Article ID 5763461, 11 pages, 2018.

$$\{\tilde{\mathbf{x}}_k^{(j)}, \tilde{w}_k^{(j)}\}_{j=1}^{N_p} = \text{Log-Resampling} \left(\{\mathbf{x}_k^{(j)}, \tilde{w}_k^{(j)}\}_{j=1}^{N_p} \right)$$

- (1) Initialize the log-CDF: $[c]_1 = \tilde{w}_k^{(1)}$;
- (2) **for** $j = 2 : N_p$ **do**
- (3) Construct log-CDF using the Jacobian logarithm:

$$[c]_j = \max \left(\tilde{w}_k^{(j)}, [c]_{j-1} \right) + \ln \left(1 + e^{-|[c]_{j-1} - \tilde{w}_k^{(j)}|} \right);$$
- (4) $i = 1$;
- (5) Draw starting point: $s \sim \mathcal{U}[0, N_p^{-1}]$;
- (6) **for** $j = 1 : N_p$ **do**
- (7) $[u]_j = \ln \left(s + N_p^{-1} (j - 1) \right)$;
- (8) **while** $[u]_j > [c]_i$ **do**
- (9) $i = i + 1$;
- (10) Assign: $\{\tilde{\mathbf{x}}_k^{(j)}, \tilde{w}_k^{(j)}\} = \{\mathbf{x}_k^{(i)}, -\ln(N_p)\}$;

ALGORITHM 4: Resampling in log-domain.