

Errata

Techniques for Efficient Implementation of FIR and Particle Filtering

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This document lists some of the errors in equations, figure and table captions and important texts found in the PhD dissertation.

- Chapter 2, pp. 17, in a programmable logic array (PLA), both the AND-plane and OR-plane are programmable. In a programmable read only memory (PROM), the AND-plane is fixed with a programmable OR-plane.
- Chapter 3, pp. 52, the correct formulation for least-squared error designs of FIR filters in (3.17) is given as:

$$E_2 = \int_X [W(\omega T) [H_R(\omega T) - D(\omega T)]]^2 d\omega T.$$

- Chapter 3, pp. 67. The term, $z-1$ appearing with $Y_1(z^2)$, $H_1(z^2)$ and $X_1(z^2)$ in (3.44) is wrong. The correct term is z^{-1} .
- Paper B, pp. 167, Fig. 12. Correct caption is : Approximation error as a function of logarithmic base with different word length. $N = 34$. (a, b) Spec. 3, $Q(3, 4)$, $Q(4, 3)$. (c, d) Spec. 6 $Q(3, 4)$, $Q(4, 3)$.
- Paper B, pp. 167, Fig. 12, (a,b) is for Spec. 6, $Q(3, 4)$, $Q(4, 3)$ and (c,d) is for Spec. 3, $Q(3, 4)$, $Q(4, 3)$.
- Paper D, pp. 214, Section 4, point number 2 is wrong. The correct formulation is “A generic double multiplier division free architecture for the resampling unit and a compact memory structure for the weight and random number generation unit.”
- Paper D, pp. 216, Section 4.1, the first sentence after (16) has been reformulated as “In case there is an $R \leq S_i$ where $i \in 0 \dots f-1$, j is the smallest index such that $R \leq S_j$, all weights with index up to $j-1$ will be discarded and $k+j$ will be the output index.”
- Paper D, pp. 219, Section 4.2, the denominator of (18) is wrong. The correct denominator is U_M making the equation (18) as:

$$u_r = \frac{U_r}{U_M}$$

- Paper D, pp. 223, Section 5.1, Fig. 17, the value of D for sub-figure (d) is 100 and not 15 as mentioned.
- Paper D, pp. 225, Section 5.2, first paragraph. The text referring to Table 1 mentions the results to not include the memories. This is not correct. The result reflects the synthesized design that included memories.