

# ERRATUM for

## “On efficient implementations of the Set-Membership NLMS algorithm for real-time applications”

José A. Apolinário Jr.<sup>†</sup> and Marcello L. R. de Campos<sup>‡</sup>

TABLE I

AN EFFICIENT IMPLEMENTATION OF THE SM-NLMS ALGORITHM.

SM-NLMS: Implementation II
<pre> Initialization: T is the number of extra iterations needed to update w T-hat = T + 1 and epsilon = small constant for each k {   e(k) = d(k) - w^T(k-1)x(k);   if (T == 0 &amp;  e(k)  &gt; gamma)   {     T = 0 means the Conventional SM-NLMS algorithm:     alpha(k) = 1 - gamma/ e(k) ;     w(k) = w(k-1) + alpha(k) * (e(k) / (epsilon +   x(k)  ^2)) * x(k);   }   elseif (T-hat == T + 1 &amp;  e(k)  &gt; gamma)   {     k-hat = k;     Compute the first step of the update:     {       alpha(k-hat) = 1 - gamma/ e(k-hat) ;       w-tilde = w(k-hat-1) + alpha(k-hat) * (e(k-hat) / (epsilon +   x(k-hat)  ^2)) * x(k-hat);     }     T-hat = 1;     w(k) = w(k-1);   } else {   w(k) = w(k-1);   if (T-hat &lt; T + 1)   {     T-hat = T-hat + 1;     Compute the T-hat-th step of the update above;     if (T-hat == T + 1)     {       w(k) = w-tilde;     }   }   end } end } end } end </pre>

The authors are with the <sup>†</sup>Department of Electrical Engineering, Instituto Militar de Engenharia, Praça General Tibúrcio, 80, 22.290-270, Rio de Janeiro-RJ, Brazil, e-mail: apolin@ieec.org and <sup>‡</sup>Program of Electrical Engineering, COPPE/UF RJ, P. O. Box 68504, 21.945-970, Rio de Janeiro-RJ, Brazil, e-mail: campos@lps.ufrj.br.