Errata


Equations (22a) and (22b) should be corrected to read as follows:

\[
S_0(t) = A, \quad 0 \leq t \leq T_s
\]

\[
S_1(t) = \begin{cases} 
A, & 0 \leq t \leq \frac{T_s}{2} \\
A \sin \frac{\pi t}{T_s}, & \frac{T_s}{2} \leq t \leq T_s 
\end{cases}
\]  

(22a)

and

\[
S_2(t) = 1 - (1 - A) \cos^2 \frac{\pi t}{T_s}, \quad 0 \leq t \leq T_s
\]

\[
S_3(t) = \begin{cases} 
1 - (1 - A) \cos^2 \frac{\pi t}{T_s}, & 0 \leq t \leq \frac{T_s}{2} \\
\sin \frac{\pi t}{T_s}, & \frac{T_s}{2} \leq t \leq T_s 
\end{cases}
\]

\[
S_4(t) = \begin{cases} 
A \sin \frac{\pi t}{T_s}, & 0 \leq t \leq \frac{T_s}{2} \\
A, & \frac{T_s}{2} \leq t \leq T_s
\end{cases}
\]

(22b)

\[
S_5(t) = A \sin \frac{\pi t}{T_s}, \quad 0 \leq t \leq T_s
\]

\[
S_6(t) = \begin{cases} 
\sin \frac{\pi t}{T_s}, & 0 \leq t \leq \frac{T_s}{2} \\
1 - (1 - A) \cos^2 \frac{\pi t}{T_s}, & \frac{T_s}{2} \leq t \leq T_s
\end{cases}
\]

\[
S_7(t) = \sin \frac{\pi t}{T_s}, \quad 0 \leq t \leq T_s
\]
Furthermore, the material starting with Eq. (30) and ending with Eq. (31) should be corrected to read as follows:

\[
P_{si}(E) = \frac{1}{2} \text{erfc} \left( \sqrt{\frac{T_s}{N_0} \left( \frac{1}{T_s} \int_0^{T_s} S_i(t) \, dt \right)} \right) = \frac{1}{2} \text{erfc} \left( \sqrt{\frac{32}{7 + 2A + 15A^2}} \frac{E_b}{N_0} (S_i(t))^2 \right) 
\]

where \( (S_i(t)) = \frac{1}{T_s} \int_0^{T_s} S_i(t) \, dt \) denotes the time average of \( S_i(t) \). Evaluating these time averages from Eq. (22b), substituting each of them in Eq. (30), and then performing the average as in Eq. (29) gives the final desired result for average symbol-error probability, namely,

\[
P_{si}(E) = \frac{1}{16} \text{erfc} \left( \sqrt{\frac{32A^2}{7 + 2A + 15A^2}} \frac{E_b}{N_0} \right) + \frac{1}{8} \text{erfc} \left( \sqrt{\frac{8A^2 \left( \frac{1 + \frac{2}{\pi}}{2} \right)^2}{7 + 2A + 15A^2}} \frac{E_b}{N_0} \right) 
\]

\[
+ \frac{1}{16} \text{erfc} \left( \sqrt{\frac{8(1+A)^2}{7 + 2A + 15A^2}} \frac{E_b}{N_0} \right) + \frac{1}{8} \text{erfc} \left( \sqrt{\frac{2 \left( \frac{1 + \frac{4}{\pi} + A}{2} \right)^2}{7 + 2A + 15A^2}} \frac{E_b}{N_0} \right) 
\]

\[
+ \frac{1}{16} \text{erfc} \left( \sqrt{\frac{32A^2 \left( \frac{2}{\pi} \right)^2}{7 + 2A + 15A^2}} \frac{E_b}{N_0} \right) + \frac{1}{16} \text{erfc} \left( \sqrt{\frac{32 \left( \frac{2}{\pi} \right)^2}{7 + 2A + 15A^2}} \frac{E_b}{N_0} \right) 
\]

(31)

It should be noted that, despite the typos in Eqs. (22a) and (22b) and errors in Eqs. (30) and (31), the numerical results reported for the average bit-error-probability performance of the conventional offset quadrature-phase-shift keyed (OQPSK) and averaged matched-filter receivers in the above-referenced article were obtained correctly. Thus, Fig. 13 of that article is correct as it stands.

Finally, the vertical axis of Fig. 5 should be labeled \( s_0(t) \) instead of \( s_1(t) \) and the left and right limits of the horizontal axis should be labeled \(-\pi/2\) and \(\pi/2\) instead of \(-1.00\) and \(1.00\), respectively.