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Errata List for: **Digital Communication over Fading Channels: A Uniform Approach to Performance Analysis (2nd Printing)**

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| Page | Line | As It Now Appears | As It Should Appear |
|---|---|---|---|
| 33 | 1 line below Eq. (3.4) | $\ldots \mathrm{Re}\{\tilde{y}_{nk}\} = \alpha_k a_n A_c T_s + \mathrm{Re}\{\alpha_k \tilde{N}_n\}$ is.. | $\ldots \mathrm{Re}\{\tilde{y}_{nk}\} - \frac{1}{2}\alpha_k^2 A_c T_s$ is... |
| 34 | Figure 3.2a | correct as shown | Choose Data Amplitude Corresponding to $\max_i \left[\mathrm{Re}\{\tilde{y}_{ni}\} - \frac{1}{2}\alpha_i^2 A_c T_s\right]$ |
| 35 | 1 line below Eq. (3.8) | ...largest $y_{Ink}$ and $y_{Qnk}$ ... | ...largest $y_{Ink} - \frac{1}{2}\alpha_k^2 A_c T_s$ and $y_{Qnk} - \frac{1}{2}\alpha_k^2 A_c T_s$... |
| 36 | Figure 3.3a | correct as shown | Choose Data Amplitude Corresponding to $\max_i \left[\mathrm{Re}\{\tilde{y}_{ni}\} - \frac{1}{2}\alpha_i^2 A_c T_s\right] = \max_i \left[y_{Ini} - \frac{1}{2}\alpha_i^2 A_c T_s\right]$ Choose Data Amplitude Corresponding to $\max_i \left[\mathrm{Im}\{\tilde{y}_{ni}\} - \frac{1}{2}\alpha_i^2 A_c T_s\right] = \max_i \left[y_{Qni} - \frac{1}{2}\alpha_i^2 A_c T_s\right]$ |
| 72 | 1 line below Eq. (4.6) | ...using (4.6)... | ...using (4.5)... |
| 72 | Add to end of Eq. (4.7) | | $, x_1 \geq 0, y_1 \geq 0$ |
| 73 | Fig. 4.1 (part b) | | Replace with revised figure |
| 86 | Eq. (4.52) | $Q_m(\alpha, \zeta\alpha) = \frac{1}{2\pi}\int_{-\pi}^{\pi}$..... | $Q_m(\alpha, \zeta\alpha) = 1 - \frac{1}{2\pi}\int_{-\pi}^{\pi}$..... |
| 86 | 1 line below Eq. (4.52) | .... by Simon [9, Eqs. (8) and (10)]....... | by Simon [9, Eqs. (7) and (10)]... |
| 87 | Footnote 11, line 3 | ....in the literature [23], they........ | in the literature [24], they... |
| 102 | Eq. (5.9) | $\ldots \frac{q^2 a^2 \bar{\gamma}^2}{(1+q^2)^2 \sin^4\theta}$ | $\ldots \frac{q^2 a^4 \bar{\gamma}^2}{(1+q^2)^2 \sin^4\theta}$ |

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| 103 | Eq. (5.17a) | $\frac{1}{2}\left[1-\mu^2(c)\sum_{k=0}^{m-1}\binom{2k}{k}\left(\frac{1-\mu(c)}{4}\right)^k\right]$ | $\frac{1}{2}\left[1-\mu(c)\sum_{k=0}^{m-1}\binom{2k}{k}\left(\frac{1-\mu^2(c)}{4}\right)^k\right]$ |
| 201 | 6 lines below Eq. (8.28) | obtained as [5, | obtained as [6, |
| 201 | Eq. (8.29) | $P_k=\frac{1}{2\pi}\int_0^{\pi(1-(2k-1)/M)}\exp\left(-\frac{E_s}{N_0}\frac{\sin^2[(2k-1)\pi]/M}{\sin^2\theta}\right)d\theta - \frac{1}{2\pi}\int_0^{\pi(1-(2k+1)/M)}\exp\left(-\frac{E_s}{N_0}\frac{\sin^2[(2k+1)\pi]/M}{\sin^2\theta}\right)d\theta$ | $P_k=\frac{1}{2\pi}\int_0^{\pi(1-(2k-1)/M)}\exp\left(-\frac{E_s}{N_0}\frac{\sin^2[(2k-1)\pi/M]}{\sin^2\theta}\right)d\theta - \frac{1}{2\pi}\int_0^{\pi(1-(2k+1)/M)}\exp\left(-\frac{E_s}{N_0}\frac{\sin^2[(2k+1)\pi/M]}{\sin^2\theta}\right)d\theta$ |
| 224 | Eq. (8.117) | $K_\pm=\frac{1}{2}\left(\frac{2k\pm1}{M}\right)\left[1-\sqrt{\frac{g_{PSK}\bar{\gamma}_s}{1+g_{PSK}\bar{\gamma}_s}}\left(\frac{M}{(2k\pm1)\pi}\right)\times\tan^{-1}\left(\sqrt{\frac{1+g_{PSK}\bar{\gamma}_s}{g_{PSK}\bar{\gamma}_s}}\tan\left[\frac{(2k\pm1)\pi}{M}\right]\right)\right]$ | $K_\pm=\frac{1}{2}\left(\frac{2k\pm1}{M}\right)\left[1-\sqrt{\frac{g_{PSK}(k^\pm)\bar{\gamma}_s}{1+g_{PSK}(k^\pm)\bar{\gamma}_s}}\left(\frac{M}{(2k\pm1)\pi}\right)\times\tan^{-1}\left(\sqrt{\frac{1+g_{PSK}(k^\pm)\bar{\gamma}_s}{g_{PSK}(k^\pm)\bar{\gamma}_s}}\tan\left[\frac{(2k\pm1)\pi}{M}\right]\right)\right]$, $g_{PSK}(k^\pm)\triangleq\sin^2\frac{(2k\pm1)\pi}{M}$ |
| 270 | Fig. 9.3 | dotted line curves | change to dashed line curves |
| 272 | 1 line below Eq. (9.20) | $g_{QAM}=3/2(M-1)$ | $g_{QAM}=3/[2(M-1)]$ |
| 298 | Eq. (9.107) | $f_1(L;\zeta,\eta;\phi)=....$ | $f_1(L;\zeta,1;\phi)=....$ |
| 305 | Eq. (9.119) | $\beta_{ki}=\sum_{n=k-L+1}^{k}\frac{\beta_{n(i-1)}}{(k-n)!}I_{[0,(i-1)(L-1)]}(i)$ | $\beta_{ki}=\sum_{n=k-L+1}^{k}\frac{\beta_{n(i-1)}}{(k-n)!}I_{[0,(i-1)(L-1)]}(n)$ |

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|---|---|---|---|
| 307 | Eq. (9.25) | $\mathrm{Re}\{\cdots\}+\mathrm{Im}\{\cdots\}\sin\Phi_k$ | $\mathrm{Re}\{\cdots\}\cos\Phi_k+\mathrm{Im}\{\cdots\}\sin\Phi_k$ |
| 309 | Sect. 9.4.2.2, line 4 | $[\bar{\gamma}_l=\bar{\gamma}_1\exp(-\delta(l-1))$ | $\left[\bar{\gamma}_l=\bar{\gamma}_1\exp(-\delta(l-1))\right]$ |
| 314 | 1 line above Eq. (9.142) | ....using Eq. (3.462.1) of.... | ....using Eq. (9.240) of.... |
| 316 | Figs. 9.14(c),(d) | labeling of x axis: -10,-5...,15,20 | labeling of x axis: -10,-5...,10,15 |
| 317 | Table 9.3 | $\left(L,n^2\ dB,d\right)$ | $\left(L,n^2\ dB,\delta\right)$ |
| 317 | line 3 | Turin et al. [82,83] | Patenaude et al. [82,83] |
| 322 | End of Eq. (9.156) | $s\geq 0$ | $s<0$ |
| 329 | Fig. 9.18 | curves computed for $M$=8 | curves need to be computed for $M$=16 |
| 330 | line 1 | but for the the.. | but for the ... |
| 357 | Eq. (9.251) | Replace entire equation | $P_b(E)=\left(1-\frac{1}{2}e^{-\gamma_T/\bar{\gamma}}\right)\left(1-\sqrt{\frac{\bar{\gamma}}{1+\bar{\gamma}}}\right) -\frac{1}{2}\left\{1-2e^{-\gamma_T/\bar{\gamma}}Q\left(\sqrt{2\gamma_T}\right)-\sqrt{\frac{\bar{\gamma}}{1+\bar{\gamma}}}\left[1-2Q\left(\sqrt{2\gamma_T(1+\bar{\gamma})/\bar{\gamma}}\right)\right]\right\} =\frac{1}{2}\left(1-e^{-\gamma_T/\bar{\gamma}}\right)\left(1-\sqrt{\frac{\bar{\gamma}}{1+\bar{\gamma}}}\right)+e^{-\gamma_T/\bar{\gamma}}Q\left(\sqrt{2\gamma_T}\right) -\sqrt{\frac{\bar{\gamma}}{1+\bar{\gamma}}}Q\left(\sqrt{2\gamma_T(1+\bar{\gamma})/\bar{\gamma}}\right)$ |
| 388 | Eq. (9.333) | $\cdots=1-e^{-\gamma_{th/\bar{\gamma}}}\cdots$ | $\cdots=1-e^{-\gamma_{th}/\bar{\gamma}}\cdots$ |
| 430 | 1 | ....transformation (9.3.17) | ....transformation (9.316) |
| 430 | Eq. (9C.5) | (9C.5) | (9C.4) |
| 430 | Equation below Eq. (9C.5) | has no equation number | (9C.5) |
| 506 | 1 line below Eq. (12.34) | $\bar{\gamma}=\overline{\alpha^2}E_s/N_0$ | $\bar{\gamma}=\overline{\alpha^2}E_b/N_0$ |