Uncertainty Analysis for Forensic Science, Lawyers & Judges, 2003
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page	Eq/line	Correction	Comment
23	Eq 3.3	$p(A\mid B)=\frac{p(A\cap B)}{p(B)}$	lower case *p* symbol is used for probability
23	Eq 3.4	$p(A\cap B)=p(A\mid B)p(B)$	intersection of A and B on left side, not union; probability of A given B, A|B, on right side
23	17	. . . , then $p(A\|B) = 0$, which . . .	should be $p(A\|B)$, not $p(A/B)$
23	Eq 3.7	$p(A\mid B)=p(A)$	this is the probability of A given B
32	1-3	In that figure, the open squares represent values of an arbitrary discrete signal, the open circles form a representative digital signal and the solid curve is a representative analog signal.	
39	21	Let us determine $f(x)$ by finding the probability that $x(t)$ is in the range x to $x + \Delta x$ over . . .	missing $x + \Delta x$
40	Eq 3.29	$f(x)=\frac{1}{T}\lim_{\Delta x\to 0}\frac{1}{\Delta x}\sum_{j=1}^{m}\left[\Delta t_j\right]$	extraneous equal sign
52	13	. . . is one-sided because it represents an integral from . . .	change “to” to “an”
58	Eq 3.64	$t_1=(x-\overline{x})/s_x$	change equal sign to a minus sign
60	5	The values for $t_{\upsilon,P}$ are given in Table 3.6.	missing $t_{\upsilon,P}$
60	16	It follows from Eq 3.66 that . . .	“Eq 3.68" should be “Eq 3.66"
61	29	$P_{true}=2P(d_{A-B}>0.795)=2[1-P(d_{A-B}\le 0.795)]=$	*I* should be a one
61	Ex 3.3	Cloth A: 3.0806, 3.0232, 2.9010, 3.1340, 3.0290 3.1479, 3.1138, 2.9316, 2.8708, 2.9927 Cloth B: 2.9820, 2.9902, 3.0728, 2.9107, 2.9775 2.9348, 2.9881, 3.2303, 2.9090, 2.7979	missing data
63	23	Now each $\overline{x}_j$ is a random variable.	
66	Eq 3.83	$\chi^2=\sum_{i=1}^{n}z_i^2=\sum_{i=1}^{n}\frac{(x-\mu)^2}{\sigma^2}$	χ^2, not x^2; also summation limits are *n*, not *N*
67	Eq 3.84	$\chi^2=\nu s_x^2/\sigma^2$	υ not n

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67	-8	n degrees	not υ $\delta\varepsilon\gamma\rho\varepsilon\varepsilon\sigma$
68	3	is, when υ = 20, 5% of all . . .	5 %, not 50 %
70	11-12	. . . exceeds the value based upon . . .	delete "of"
79	26	scatter	remove apostrophe
87	Eq 4.18	$u_r^2 \cong \sum_{i=1}^{J} (\theta_i)^2 u_{x_i}^2 + 2\sum_{i=1}^{J-1} \sum_{j=i+1}^{J} (\theta_i)(\theta_j) u_{x_i x_j}$	approximation
87	Eq 4.19	$u_{x_i, x_j} = \sum_{k=1}^{L} (u_i)_k (u_j)_k$	
88	3	Equation 4.21 is the Welsh-Satterwaite formula	not Eq 4.10
89	8	$u_{\Delta P_A}^2 = u_{P_1}^2 + u_{P_2}^2$	
89	mid page	$= (0.3)(0.3) + (0.5)(0.5) \cong 0.3\%$	
90	-6	Examples of e_i are linearity, hysteresis, sensitivity, . . .	delete second "linearity"
94	7	$(u_d)_{mp} = \sqrt{[(u_d)_t]^2 + [(u_d)_{pm}]^2}$	
96	mid page	$u_e = \sqrt{\left(\frac{\partial e}{\partial h_b} u_{h_b}\right)^2 + \left(\frac{\partial e}{\partial h_a} u_{h_a}\right)^2}$	
97	Fig 4.4	θ is drawn incorrectly; it should be counterclockwise from the horizontal	
99	-4	$u_\rho = \sqrt{\left(\frac{\partial \rho}{\partial T} u_T\right)^2 + \left(\frac{\partial \rho}{\partial P} u_P\right)^2}$	
100	top	$u_\rho = \sqrt{\left(\frac{-P}{RT^2} u_T\right)^2 + \left(\frac{1}{RT} u_P\right)^2}$	
101	8	ρ (0.1 %)	ρ not r
101	mid page	$\left(\frac{u_m}{\lvert m \rvert}\right)_A = \sqrt{\left(\frac{u_W}{W}\right)^2 + \left(\frac{u_g}{g}\right)^2} = \sqrt{(0.020)^2 + (0.001)^2} = 2.0\%$	
101	lower page	$\left(\frac{u_m}{\lvert m \rvert}\right) = \sqrt{\left(\frac{u_\rho}{\rho}\right)^2 + \left(\frac{u_V}{V}\right)^2} = \sqrt{(0.001)^2 + (0.017)^2} = 0.017 = 1.7\%$	
101	-4	in g and ρ both . . .	ρ not r

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102	-1	4.22 . . .	reference to Eq 4.22
103	Eq 4.46	$\nu_r = \dfrac{\left[\sum_{i=1}^{J} \theta_i^2 (S_{B_i}^2 + S_{P_i}^2)\right]^2}{\sum_{i=1}^{J} \left\{ (\theta_i^4 S_{P_i}^4 / \nu_{P_i} + \left[\sum_{k=1}^{M_B} \theta_i^4 (S_{B_i})_k^4 / \nu_{(S_{B_i})_k} \right] \right\}}$	
108	-1	$N_{P_3} = 9 \Rightarrow \nu_{P_3} = 8$	last entry in table
109	1	Assume 100% reliability in the values . . .	insert the word reliability
109	equ	$S_{\bar{P}}^2 = \dfrac{S_{P_1}^2}{N_{P_1}} + \dfrac{S_{P_2}^2}{N_{P_2}} + \dfrac{S_{P_3}^2}{N_{P_3}} = \dfrac{4.6^2}{15} + \dfrac{10.3^2}{38} + \dfrac{1.2^2}{9} = 4.4\ N^2 / cm^4$	
109	15	$t_{54,95} \cong 2.$	
109	-9	$\sigma' = \bar{\sigma} \pm U_\sigma \quad where\ U_\sigma = t_{54,95} \cdot u_\sigma = 6.2\ N / cm^2\ (95\%)$	
110	9	$\bar{P} = 2253.91$ psfa	
110	mid pg	$\bar{\rho} = \dfrac{\bar{P}}{R\bar{T}} = 0.074$ lbm/ft^3	
110	bot	$S_{\bar{P}} = \sqrt{\left(\dfrac{\partial \rho}{\partial T} S_{P_{\bar{T}}}\right)^2 + \left(\dfrac{\partial \rho}{\partial P} S_{P_{\bar{P}}}\right)^2} = \sqrt{\left(\dfrac{-\bar{P}}{R\bar{T}^2} S_{P_{\bar{T}}}\right)^2 + \left(\dfrac{1}{R\bar{T}} S_{P_{\bar{P}}}\right)^2}$	
112	15	$U_x = 2u_C$	
114	Eq 4.60	$f(x+\Delta x) = f(x) + \Delta x f'(x) + \dfrac{(\Delta x)^2}{2} f''(x) + \dfrac{(\Delta x)^3}{2} f'''(x) + ...$	
115	Eq 4.62	$f'(x) = \dfrac{f(x) - f(x-\Delta x)}{\Delta x} + \dfrac{\Delta x}{2} f''(x) - \dfrac{(\Delta x)^2}{6} f'''(x)...$	sign of second term
116	Eq 4.63	$f'(x) = \dfrac{f(x+\Delta x) - f(x-\Delta x)}{2\Delta x} - \dfrac{(\Delta x)^2}{6} f'''(x) + ...$	
117	Eq 4.68	$e_d = \sum_{i=1}^{N} E_i \cong \dfrac{1}{24} \sum_{i=1}^{N} (\Delta x)^3 f'' = \dfrac{N}{24} (\Delta x)^3 f'' = \dfrac{(b-a)^3}{24N^2} f''$	$i = 1$ on lower sum; note approximation sign