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
58	10	It follows that there is a % P probability that the normally distributed variable x_i in a small sample will be within $\pm t_{\nu,P}$ sample standard deviations from the sample mean.	
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	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 $P_{true} = 2P(d_{A-B} > 0.795) = 2[1 - P(d_{A-B} \leq 0.795)] =$	missing data
61	Ex 3.3	$= 50 + \frac{0.795 - 0.703}{1.833 - 0.703}(90 - 50) = 53.3\ \%$	*I* should be a one; interpolated answer is 53.3%

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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
67	-8	n degrees	not υ δεγρεεσ
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-Satterthwaite 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	$u_e = \sqrt{\left(\frac{\partial e}{\partial h_b} u_{h_b}\right)^2 + \left(\frac{\partial e}{\partial h_a} u_{h_a}\right)^2}$	
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	$\left(\frac{u_m}{\lvert m\rvert}\right) = \sqrt{\left(\frac{u_\rho}{\rho}\right)^2 + \left(\frac{u_V}{V}\right)^2} = \sqrt{(0.001)^2 + (0.017)^2} = 0.017 = 1.7\%$

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101	-4	in g and ρ both . . .	ρ not r
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	$S_{\bar{P}}^2 = \frac{S_{P_1}^2}{N_{P_1}} + \frac{S_{P_2}^2}{N_{P_2}} + \frac{S_{P_3}^2}{N_{P_3}} = \frac{4.6^2}{15} + \frac{10.3^2}{38} + \frac{1.2^2}{9} = 4.4\ N^2/cm^4$	
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	$\bar{\rho} = \frac{\bar{P}}{R\bar{\bar{T}}} = 0.074$ lbm/ft^3	
110	bot	$S_{\bar{P}} = \sqrt{\left(\frac{\partial \rho}{\partial T} S_{P_{\bar{T}}}\right)^2 + \left(\frac{\partial \rho}{\partial P} S_{P_{\bar{P}}}\right)^2} = \sqrt{\left(\frac{-\bar{P}}{R\bar{\bar{T}}^2} S_{P_{\bar{T}}}\right)^2 + \left(\frac{1}{R\bar{\bar{T}}} S_{P_{\bar{P}}}\right)^2}$	
112	15	$U_x = 2u_C$	
114	Eq 4.60	$f(x+\Delta x) = f(x) + \Delta x f'(x) + \frac{(\Delta x)^2}{2} f''(x) + \frac{(\Delta x)^3}{2} f'''(x) + \ldots$	
115	Eq 4.62	$f'(x) = \frac{f(x) - f(x-\Delta x)}{\Delta x} + \frac{\Delta x}{2} f''(x) - \frac{(\Delta x)^2}{6} f'''(x) \ldots$	sign of second term

116	Eq 4.63	$f'(x) = \frac{f(x+\Delta x) - f(x-\Delta x)}{2\Delta x} - \frac{(\Delta x)^2}{6} f'''(x) + ...$	
117	Eq 4.68	$e_d = \sum_{i=1}^{N} E_i$	$i = 1$ on lower sum
125	Eq 5.4	$\sigma_y^2 = a^2 \sigma_x^2$	x is a subscript
132	line 2	80% confidence	80% lies between the 10 and 90percentile points
132	line 9	. . . Example 5.4. Equation 5.10 . . .	example and equation numbers are incorrect
157	line 15 & 29	Example 5.5 . . .	not Example 5.4
157	line 33	Equation 6.9 . . .	not Equation 6.11
162	Eq 6.15	$ME_j = ME_l\,,\, j \neq l$	missing $\neq$