

## Corrigenda

Kiyosi Itô. Stochastic Processes

Lectures given at Aarhus University

Edited by Ole E. Barndorff-Nielsen and Ken-iti Sato

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Compiled by Ken-iti Sato and Yumiko Sato

Page  $a$ , line  $b$  from the top and page  $a$ , line  $c$  from the bottom are denoted by  $a^b$  and  $a_c$ .

<i>Page and line</i>	<i>For</i>	<i>Read</i>
3 <sub>8</sub>	$C_i$	$\mathcal{C}_i$
5 <sub>2</sub>	$dx$	$d\mathbf{x}$
21 <sub>10</sub>	(b)	2
22 <sup>8</sup>	$e^{-(1/n) \log \phi(z)}$	$e^{(1/n) \log \phi(z)}$
23 <sup>3</sup>	(d)	4
38 <sup>3</sup>	$Y(m)$	$Y(2m)$
38 <sup>6</sup>	$Y(m) - a = X_m \vee a - a = (X_m - a)^+$	$Y(2m) - a = X_{2m} \vee a - a = (X_{2m} - a)^+$
38 <sup>7</sup>	$(X_m - a)^+$	$(X_{2m} - a)^+$
42 <sup>12</sup>	If	It
65 <sub>3</sub>	$A$	$A_i$
73 <sub>1</sub>	1987.	1987).
94 <sup>12</sup>	(T.4)	(T.5)
95 <sub>5</sub>	$L(E.E)$	$L(E, E)$
97 <sup>16</sup>	$\alpha = 0$	$\alpha > 0$
100 <sup>3</sup>	$+$ $\int_0^\infty$	$+$ $\int_1^\infty$
109 <sup>5</sup>	$U(b)$	$U_\varepsilon(b)$
111 <sub>4</sub>	$\mathbf{B}(\mathcal{B}_t)$	$\mathbf{B}(\mathcal{B}_t)$ ,
118 <sup>9</sup>	Theorem 3	Theorem 4
120 <sup>13</sup>	$\bar{\mathcal{B}}_t)$	$\bar{\mathcal{B}}_t$
121 <sup>9</sup>	Theorem 1	Theorem 2
128 <sub>9</sub>	$a, b, \in R^1$	$a, b \in R^1$

129 <sub>4</sub>	$G_F$	$G_n$
139 <sup>3</sup>	$H_t$	$H_h$
139 <sub>5</sub>	(f)	6
139 <sub>3</sub>	$(\alpha - A)$	$(\alpha - A)^{-1}$
140 <sub>11</sub>	$E(u(X_{\tau(r)}))$	$E(u(X_{\tau(r)}))$
146 <sub>4</sub>	for $a \neq 0$ ,	for $a > 0$ or $a \leq -t$ ,
147 <sub>2</sub>	$\int_1^\varepsilon$	$\int_\varepsilon^1$
148 <sub>3</sub>	$\mathfrak{D}$	$\mathfrak{D}(A)$
152 <sup>3</sup>	$j_\infty = \infty$	$j_\infty < \infty$
164 <sup>15</sup>	2.11.3	2.11.2
164 <sub>1</sub>	$H_s^k = I$	$H_0^k = I$
167 <sup>12</sup>	Theorem 1	Theorem 2
174 <sub>10</sub>	$R^3$	$R^k$
175 <sup>12</sup>	$\frac{1}{2}\Delta u(a)$	$\frac{1}{4}\Delta u(a)$
177 <sup>3</sup>	$e_1 > \frac{\varepsilon_n}{2}$	$-e_1 > \frac{\varepsilon_n}{2}$
177 <sup>4</sup>	$e_i > \frac{\varepsilon_n}{2}$	$-e_i > \frac{\varepsilon_n}{2}$
191 <sub>5</sub>	<b>2.8.</b>	<b>2.8.</b> Let $X(t)$ be a Brownian motion.
200 <sup>11</sup>	$[-n, -n]$	$[-n, n]$
203 <sup>8</sup>	$G_n(dx)$	$G(dx)$
207 <sub>4</sub>	$1 + iz$	$1 - iz$
212 <sub>13</sub>	Let	(i) Let
217 <sup>10</sup>	$X_2(t) - X_1(s)$	$X_2(t) - X_2(s)$
217 <sup>11</sup>	$X_2(t) - X_1(s)$	$X_2(t) - X_2(s)$
222 <sub>6</sub>	$T_{x^0}$	$T_t x^0$
226 <sub>4</sub>	$r]$	$r\}$
230 <sup>6</sup>	$\infty)$	$\infty)$ .

<sup>56</sup> *Delete footnote*The variance of  $\mu$  is denoted by  $V(\mu)$ . *and add a new footnote*  
The variance of  $\mu$  is denoted by  $V(\mu)$ .

Replace 88<sup>9</sup>–88<sup>11</sup> by the following:

$$\bigcup_k B_k(\omega) \cup A(\omega),$$

where, letting  $\{S_k(\omega)\}$  be the set of all discontinuity points in the interval  $(t_1, t_2]$ , we

define  $B_k(\omega) = (X(S_{k-}, \omega), X(S_k, \omega))$  if  $X(S_{k-}, \omega) \in A(\omega)$ , and  $B_k(\omega) = [X(S_{k-}, \omega), X(S_k, \omega)]$  if  $X(S_{k-}, \omega) \notin A(\omega)$ . We take the Lebesgue measures of both expressions to get

To **Example** in p. 128 the following remark should be added:

The  $d(a, b)$  is not a metric in  $R^1 \cup \{\infty\}$ , as it does not satisfy

$$d(a, -a) \leq d(a, \infty) + d(\infty, -a)$$

for large  $a$ . Map  $R^1 \cup \{\infty\}$  onto the unit circle in the complex plane by  $\phi(a) = e^{2i \arctan a}$ ,  $a \in R^1$ , and  $\phi(\infty) = -1$  and use the usual distance ( $\leq \pi$ ) along the circle for a metric instead of the  $d$ .

Replace 210<sup>3</sup>-210<sup>5</sup> by the following:

satisfying (a)–(c). Then the conditional expectation with respect to  $\mathcal{B}_{n-1}$  gives  $M_{n-1} + A_n = M'_{n-1} + A'_n$ . Since  $M_{n-1} + A_{n-1} = M'_{n-1} + A'_{n-1}$ , we have  $A_n - A_{n-1} = A'_n - A'_{n-1}$ . Therefore  $A_n = A'_n$  for all  $n$ , since  $A_1 = A'_1 \equiv 0$ . Hence  $M_n = M'_n$ .

(February 9, 2009)