

**Corrections for “Lévy Processes and Stochastic
Calculus (second edition, second printing)” - by
D.Applebaum November 2011**

- 21, -6 There should be an additional $\int_{\mathbb{R}^d}$ at the front of the right hand side of (1.4).
- 21, -3 The final μ_2 in (1.5) should be μ_1 .
- 30, +6 Replace “Borel” with “open”.
- 31, +8 Replace χ_B with $\chi_{\hat{B}}$.
- 44, -6 Replace “and that, for each $u \in \mathbb{R}^d, t \geq 0$. Define” with “and for each $u \in \mathbb{R}^d, t \geq 0$ define”.
- 48, +1 Replace “ $t \geq 0$ ” with “ $t \in [0, 1]$ ”.
- 50, -7. Replace $T_m^{(1)} = T_m^{(2)}$ (a.s) with $P(T_m^{(1)} = T_m^{(2)}) > 0$.
- 50, -6 Replace $Z(m + n - 2) = 2$ (a.s.) with $P(Z(m + n - 2) = 2) > 0$.
- 58, +6 Replace $a \in \mathbb{R}^d$ with $a > 0$.
- 58, -3 Replace $\eta_{Z(t)(u)}$ with $(u, Z(t))$.
- 66, +14 Replace $X\left(\frac{1}{n}\right) + X\left(\frac{1}{n}\right) + \cdots + X\left(\frac{1}{n}\right)$ with $X\left(\frac{1}{n}\right) + \left(X\left(\frac{2}{n}\right) - X\left(\frac{1}{n}\right)\right) + \cdots + \left(X(1) - \left(X\left(\frac{n-1}{n}\right)\right)\right)$.
- 66, +16 Replace $X\left(\frac{1}{n}\right) + X\left(\frac{1}{n}\right) + \cdots + X\left(\frac{1}{n}\right)$ with $X\left(\frac{1}{n}\right) + \left(X\left(\frac{2}{n}\right) - X\left(\frac{1}{n}\right)\right) + \cdots + \left(X\left(\frac{r}{n}\right) - \left(X\left(\frac{r-1}{n}\right)\right)\right)$.
- 66, +17 Insert a.s. after $X(q) > 0$.
- 94, -13 Replace $\mathbb{E}(\langle M, N \rangle(t)^2)$ with $\mathbb{E}(\langle M, N \rangle(t))^2$
- 99, + 9 Replace “Now...that” with “We now show that for all $n \in \mathbb{N}$ ”
- 99, +11 Replace “then” with “First note that”
- 102, + 7 Change $X(w) - X(u)$ to $X(u) - X(w)$ in (2.4).
- 102, +9 Change $n - 1$ to $n + 1$.

- 104, -6 Change $\lambda(B)$ to $\lambda(A)$.
- 104, -3 Change “sets in S ” to “sets in $\mathcal{S}$ ”.
- 105, +3 Change $\lambda(dx, dt)$ to $\lambda(dt, dx)$.
- 105, -19 Change “Càdlàg” to “càdlàg”.
- 111, -10 Replace the sentence “A process...analogously.” with “A process is of *infinite variation* if it fails to be of finite variation.”
- p.114 Change A^c to A^0 on lines +6 and +11.
- 114, +3 Change $(M_1$ to M_1 .
- 114, +6 Change S_n to s_n .
- 114, +10 Change $M(S_n)$ to $M(s_n)$.
- 114, -2 and -3 Change $V_{M_2}(t))$ to $V_{M_2}(t)$ (in three places altogether.)
- 119, +4 Insert “a slight variation of” between “and” and “the”.
- 122, -10 Change $\int_{|x|<1} \tilde{N}(t, dx)$ to $\int_{|x|<1} x \tilde{N}(t, dx)$.
- 125, -9 Change j to k .
- 127, +11 $e^{it(u,b)}$ is missing from the front of the right hand side.
- 132, +5 Change $\mathbb{E}(|Y^n|)$ to $\mathbb{E}(|Y|^n)$.
- 134, -1 Change x^2 to $|x|^2$ within the integral.
- 135, +9 Change $\Delta Y(t)$ to $\Delta Y_n(t)$.
- 135, -9 Change T_2 to T_n^2 .
- 135, -1 and 136, +3 Change $\epsilon_{n+1} < |x| < \epsilon_n$ to $\epsilon_{n+1} \leq |x| < \epsilon_n$.
- 137, +12 Change “is square-integrable” to “is a square-integrable martingale.”
- 140, -10 Delete the second sentence of (2), i.e. everything from “Furthermore...”.
- 154, -12 Change $\mathbb{R}^d$ to $\mathbb{R}$.

- 160, -1 Insert “definite” after “positive” and change C to $\mathbb{C}$.
- 169, +4 Change $\mathbf{C}$ to $\mathbb{C}$.
- 194, -8 A dy is missing at the end of the RHS of (3.30).
- 203, +1 Change “ T is bounded” to “ $\tilde{T}$ is bounded”.
- 255, +4 to +5 $\int_{|x| \leq 1} x \tilde{N}(t, dx)$ must all appear on the same line.
- 308, +3-+4 $P = P^2 = P$ should read $P = P^2 = P^*$.
- 314, -9 $\mathcal{F}$ should be $\mathcal{F}_T$.
- p.376. After the proof of Theorem 6.2.11 and before “We may also consider” please insert (as a new paragraph)
- Note. The mappings $F^i, G^i : \mathbb{R}^d \times \mathbb{R}^d \rightarrow \mathbb{R}$ can be replaced by $F^i, G^i : \mathbb{R}^d \times \mathbb{R}^m \rightarrow \mathbb{R}$ to allow for a Poisson random measure that lives on $\mathbb{R}^+ \times (\mathbb{R}^m - \{0\})$, and the proof of existence and uniqueness of solutions to SDEs goes through just as we have discussed. We will use this in the next section to consider SDEs whose solution lies in a different Euclidean space to the driving noise.”
- 384, + 13 “Example6.4.1” should read “Example 6.4.1.”
- 401, -8 $T_{0,t}$ and $S_{0,t-s}$ should be T_t and S_{t-s} (respectively).