

**CORRECTION SHEET**  
**AN INTRODUCTION TO RANDOM MATRICES**  
**Anderson, Guionnet, Zeitouni**

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This list collects the most current list of corrections for the above book. Items marked by \* are important, that is, are more than typos. We thank the following people for their comments: Florent Benaych-Georges, Jun Chen, Amir Dembo, Toby Johnson, Achim Klenke, Alain Rouault.

1. Page 10, line 2, replace “ $2z$ ” in the denominator by “ $2$ ”.
2. \* Page 15, line 22 and 30, replace “the next-to-last letter of  $w_{i-1}$ ” by “the entry preceding the first occurrence of the last letter of  $w_{i-1}$ ”.
3. \* Page 13, line 23, replace “ $\ell(w) - 1$  edges” by “at most  $\ell(w) - 1$  edges”.
4. Page 23, line 3, add a missing  $|$  after  $f(y)$ .
5. Page 32, line 4, replace “fail” by “fails”.
6. Page 36, line -3, replace “ $T_i^N$ ” by “ $\bar{T}_i^N$ ”.
7. Page 37, (2.2.4), replace “ $g_w(1, 1)$ ” by “ $g_w(1, 1)^{k/2}$ ”.
8. Page 40, line -2, replace “ $G \wedge (-1/\epsilon) \vee (1/\epsilon)$ ” by “ $G \wedge (1/\epsilon) \vee (-1/\epsilon)$ ”.
9. Page 41, line 3, replace “ $= M \dots$ ” by “ $\leq \sqrt{M} \dots$ ”. In (2.3.8), replace “ $E$ ” in left side by “ $E_P$ ”.
10. Page 49, Equation (2.4.14), replace  $S_\mu(\lambda + \epsilon)$  by  $S_\mu(\lambda + i\epsilon)$ .
11. Page 59 line -4, replace “ $\Delta(x)^{2c}$ ” by “ $|\Delta(x)|^{2c}$ ”.
12. Page 76, line -7, Page 77, lines 6 and 17, replace  $Z_N^{\beta, V}$  by  $Z_{V, \beta}^N$ .
13. Page 78 line -4, -2, -1, page 79 line 3, replace  $\nu$  by  $\mu$ .
14. Page 79 line 7, replace  $\epsilon$  by  $\delta$ .
15. Page 79, line -6, display, replace “ $\lim_{N \rightarrow \infty}$ ” by “ $\lim_{\delta \rightarrow 0}$ ”.
16. Page 79 line -4, replace  $\lambda_i < \lambda_{i-1}$  by  $\lambda_i < \lambda_{i+1}$ .
17. Page 80, lines 14, 17, replace  $Z_{\beta, V}^N$  by  $Z_{V, \beta}^N$ .
18. Page 81, line 7, replace (2.4.6) by (2.4.7).
19. \* Page 81, Assumption 2.6.5: add the assumption  $\alpha_{V, \beta} = C_\beta^V$ . (This is needed in Page 84, line 10.) Alternatively, in addition to the current Assumption 2.6.5, assume that under  $P_{NV/(N-1), \beta}^{N-1}$ , the top eigenvalue converges in probability to  $x^*$ .

20. \* Page 81, display in Theorem 2.6.6 has a sign error, and should read

$$J_{\beta}^V(x) = \begin{cases} -\beta \int \log|x-y| \sigma_{\beta}^V(dy) + V(x) - \alpha_{V,\beta} & \text{if } x \geq x^*, \\ \infty & \text{otherwise,} \end{cases}$$

21. Page 91, line 6, replace “ $\sqrt{n}$ ” by “ $\sqrt{N}$ ”.

22. Page 93, line -4, replace “Corollary 3.1.5” by “Theorem 3.1.5”.

23. Page 105, Exercise 3.3.4, line -2: replace  $x^{2k}$  by  $(x^{2k} - x^k y^k)$ .

24. Page 106, line 2, replace  $K(x, y)$  by  $K^{(N)}(x, y)$ . Line 6, replace Section 3.2.1 by Section 3.2.2.

25. Page 123, (3.6.5), replace  $\Delta_{\ell}(x, y)$  by  $\Delta_{\ell}$ .

26. Page 284, 3 lines above Corollary 4.4.4, replace  $a^2 m^{-1}$  by  $a^2 m$ .

27. Page 303, Theorem 4.5.35, replace Edelman–Dumitriu by Dumitriu–Edelman.