

### Correction of (1.25) and (1.26):

There are errors in the equations (1.25) and (1.26) in the paper “Painleve formulas of the limiting distributions for non-null complex sample covariance matrices” [2]. They should be corrected as

$$f(x, w) \sim \frac{1}{\sqrt{2}} e^{\frac{1}{6}w^3 - \frac{\sqrt{2}}{3}|x|^{3/2} + \frac{1}{2}|x|w - \frac{1}{2\sqrt{2}}w^2|x|^{1/2}} \quad (1)$$

and

$$g(x, w) \sim -\frac{1}{\sqrt{2}} e^{\frac{1}{6}w^3 - \frac{\sqrt{2}}{3}|x|^{3/2} + \frac{1}{2}|x|w - \frac{1}{2\sqrt{2}}w^2|x|^{1/2}}, \quad (2)$$

respectively, as  $x \rightarrow -\infty$ . The functions  $f$  and  $g$  are defined by (1.20) and (1.22) which involve the Riemann-Hilbert problem  $M(z; x)$ . The asymptotic of  $m(z; x) = M(z; x)$  as  $x \rightarrow -\infty$  is given in (2.26) and (2.27) of [1]. A simple algebraic mistake was introduced when the formulas (1.25) and (1.26) were obtained from this.

## References

- [1] J. Baik, and E. Rains. The asymptotics of monotone subsequences of involutions. *Duke Math. J.*, 109(2):205–281, 2001.
- [2] J. Baik. Painleve formulas of the limiting distributions for non-null complex sample covariance matrices. *Duke Math. J.*, 133(2):205–235, 2006.