

Errata to
“Calculating the normalising constant of the Bingham
distribution on the sphere using the holonomic gradient
method,” *Statistics and Computing*, 2015, Vol. 25, pp. 321–332
by Tomonari Sei and Alfred Kume

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We correct errors regarding the Laplace inversion as follows.

- Line 15 on the right column of page 321 should be

$$c(\boldsymbol{\theta}) = \frac{\Gamma(p/2)c(\mathbf{0})}{2\pi i} \int_{t_0-i\infty}^{t_0+i\infty} \frac{1}{\prod_{k=1}^p \sqrt{-\theta_k - t}} e^{-t} dt, \quad (3)$$

- Line 7 on the right column of page 331 should be

$$= \frac{\Gamma(p/2)c(\mathbf{0})}{2\pi} \lim_{\epsilon \rightarrow 0} \int_{-\infty}^{\infty} \frac{1}{\prod_k \sqrt{-\theta_k - is}} e^{-is - \epsilon s^2/2} ds.$$

- Line 9 on the same page and column should be

$$c(\boldsymbol{\theta}) = \frac{\Gamma(p/2)c(\mathbf{0})}{2\pi} \int_{-\infty}^{\infty} \frac{1}{\prod_k \sqrt{-\theta_k - is}} e^{-is} ds$$

- Line 12 on the same page and column should be

$$c(\boldsymbol{\theta}) = \frac{\Gamma(p/2)c(\mathbf{0})}{2\pi} \int_{-\infty}^{\infty} \frac{1}{\prod_k \sqrt{-\theta_k - t_0 - is}} e^{-t_0 - is} ds \quad (29)$$

These errors do not affect the main results in the paper since the expressions are used only for derivation of the linear differential equations, which are invariant under scalar multiplication.

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