

**Review Report for the Authors of  
“Statistical Manifolds Admitting Torsion and Partially Flat Spaces.”**

This article gives a clear and concise overview of the fundamental results on statistical manifolds admitting torsion and of a concrete example of statistical situations in which such a geometric object naturally appears. The reviewer feels that the paper is very readable and will be useful for the readers interested in the advanced topic of information geometry, hence it is worth being published as a chapter of the book “Geometric Structures of Information.” However, the referee also notes that there seem to be several typos and points that might be improved as are mentioned below. He is pleased if any of them are helpful to the authors in revising the article.

- In l. 2 from the bottom of Abstract, the phrase “..., such as canonical a pre-contrast ...” will be a writing mistake of “..., such as a canonical pre-contrast ...”
- L. 14 of p. 2 (and many other places). For the reviewer ‘an SMAT’ sounds better than ‘a SMAT’ since he reads ‘SMAT’ as ‘es-em-ei-tee,’ but this might be too minor a comment.
- In l. 2 of p. 3, “For an affine connection ...”
- The bottom line of p. 2. Putting a comma at the last, as “... $\mathcal{X}(M))_2$ ,” might be better.
- In condition (a) of the definition of a pre-contrast function in p. 5, “ $\rho(f_1X_1 + f_2X_2, q) = \underline{f_1\rho(X_1, q) + f_2\rho(X_2, q)}$  ...”
- The right hand side of equation (8) in p. 7. “ $\{A(\theta_0)\}^{-1}B(\theta_0)\underline{\{A(\theta_0)^T\}^{-1}}$ ” seems to be correct.
- L. 15 of p. 9. I doubt it is widely known what “ $(u_*(x, \theta)$  is) integrable with respect to  $\theta$ ” means, hence it may be better to provide an additional explanation, for instance, “i.e. there exists a function  $\psi(x, \theta)$  satisfying  $\partial_j \psi(x, \theta) = u_*^j(x, \theta)$  ( $j = 1, \dots, d$ ).”
- L. 7 from the bottom of p. 10. Should “(by considering) the left hand side of (7)” be “ $q(x, \theta)$ ”?
- In l. 2 of p. 11,  $\begin{pmatrix} V_1(\theta) & \dots & 0 \\ \vdots & \ddots & \vdots \\ 0 & \dots & V_n(\theta) \end{pmatrix}$  should be its inverse matrix.
- In l. 5 and l. 4 from the bottom of p. 11,  $\nabla$ ’s will be typos of  $\nabla^*$ ’s.