Review of: "Product of Distributions Applied to Discrete Differential Geometry"

Yaping Yuan[1]

1 University of Massachusetts at Amherst

Overall, the paper proposes a formula for evaluating the product of step discontinuous and Dirac delta fucntions and its application in the evaluation of the discrete curvature of a polyhedron vertex. Furthermore, by taking the derivatives in D', this paper evalutes Riemann tensors by appling the classical rule of the differential geometry. There are sometiny typos in the paper, as well as some unclear statement. All details are as following:

1. In the sentnece above equation (8), there is a tiny typo, should be sign(x).

2. In section 3 The multidimensional case, the sentence "Obviously, we can interchange the roles of x and y…" needs some remark, for example, Fubini Theorem.

3. In section 4 Metrics for a polyhedron vertex, the sentence "Even thought this paragraph…" should be "Even though…."

4. In equation(14), the variable x^1 and x^2 can be confusing since it looks like x square. Suggest to modify it as x_1, x_2.

5. At the end of section 4, the sentence "which is continuous in A=…" should be "A=[a, b]*[c, d]"

6. In section 5, the notation $g^{i, j}$ should consistent with equation (20). Furthermore, in equation (21), the partial derivative with g_{12} should be written as g^{12} to keep consistence with the notation above.

7. In equation (84), suggest to rewrite function 1(x). At the discontinuity point x=1, the left hand side is 1, but the right hand side is 0.