

## **On convexity in product of Riemannian manifolds**

### **ABSTRACT**

In this paper, the concept of convexity and starshapedness in the cartesian product of two complete, simple connected smooth Riemannian manifolds without conjugate points are studied in terms of the same concepts in the components of product. We also discuss some of their properties in the cartesian product of Riemannian manifolds without conjugate points. Results obtained in this paper may inspire future research in convex analysis and related optimization fields.

**Keyword:** Convex sets; Conjugate points; Kernel; Starshaped sets