# GENERIC WARPED PRODUCT SUBMANIFOLDS OF LOCALLY CONFORMAL KEAHLER MANIFOLDS*

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**Abstract**    Warped product manifolds are known to have applications in physics. For instance, they provide an excellent setting to model space-time near a black hole or a massive star (cf. [9]). The studies on warped product manifolds with extrinsic geometric point of view were intensified after the B.Y. Chen's work on CR-warped product submanifolds of Kaehler manifolds (cf. [6], [7]). Later on, similar studies were carried out in the setting of l.c.K. manifolds and nearly Kaehler manifolds (cf. [3], [11]). In the present article, we investigate a larger class of warped product submanifolds of l.c.K. manifolds, ensure their existence by constructing an example of such manifolds and obtain some important properties of these submanifolds. With regard to the CR-warped product submanifold, a special case of generic warped product submanifolds, we obtain a characterization under which a CR-submanifold is reducesd a CR-warped product submanifold.

**Key words**    warped product submanifold; locally conformal Kaehler manifold; generic submanifold

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## 1    Introduction

R.L. Bishop and B. O'Neill [1], when constructing examples of manifolds of negative curvatures, introduced the notion of warped product manifolds by homothetically warping the product metric of a product manifold $B \times F$ on to the fibers $p \times F$ for each $p \in B$. These manifolds appear in differential geometric studies in a natural way, making the studies of warped