ON ALMOST PSEUDO CONFORMALLY SYMMETRIC MANIFOLDS WITH APPLICATIONS TO RELATIVITY

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In 1987, M.C. Chaki introduced the notion of pseudo symmetric manifolds. This notion is different from that of Deszezs notion of pseudosymmetry. Since then several authors have studied such a manifold and generalize such a structure. In 2008, U.C. De and A.K. Gazi introduced the notion of almost pseudosymmetric manifolds. In the present talk we have shown that a conformal deformation of every conformally recurrent metric gives rise to a new type of Riemannian manifold which is called almost pseudo conformally symmetric manifold. This notion generalizes the notion of conformally quasi-recurrent manifolds introduced by M. Prvanovic in 1988. Some interesting geometric properties have been obtained. The existence of such a manifold is also proved by an example. Next we consider almost pseudo conformally symmetric Ricci-recurrent manifolds. Finally, we obtain some results in an almost pseudo conformally symmetric Ricci-recurrent spacetime.