
Riemannian extensions of affine surfaces with cyclic parallel Ricci tensor.

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Let $(M; \nabla)$ be a two dimensional affine manifold and (T^*M, g^∇) its Riemannian extension. In this paper, we show that (T^*M, g^∇) has a cyclic parallel Ricci tensor (or is an L_3 -space or is a A -manifold Einstein-like) if and only if $(M; \nabla)$ has a cyclic parallel Ricci tensor (or is an L_3 -space or is a A -manifold Einstein-like).

Keywords: Ricci tensor, Cyclic parallel Ricci tensor, affine surface, Riemann extensions.