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On the 4-dimensional Kleinian nonisotropic Osserman manifolds

h We study the 4-dimensional Kleinian timelike (or specilike) Osserman manifolds. Let M be a such manifold. The first main result is concering the case when the Jacobi operator is diagonalizable and then M is locally rank 1 symmetric space or flat. Without diagonalizability condition we do not have this characterization of Osserman manifolds what is illustrated by some examples. But, in the nondiagonalizable case the characteristic polynomial of the Jacobi operator has to have a triple zero, what is the other main result. For the nondiagonalizable Jacobi operators some of the examples show a different nature of the Osserman condition for Riemannian and pseudo-Riemannian manifolds. These manifolds have very interesting and reach geometry.