Özen, Füsun; **Altay, Sezgin**

Conformal mappings and special networks of Weyl spaces. (English) Zbl 1032.53004

Mladenov, Ivaïlo M. (ed.) et al., Proceedings of the 4th international conference on geometry, integrability and quantization, Sts. Constantine and Elena, Bulgaria, June 6-15, 2002. Sofia: Coral Press Scientific Publishing. 239-247 (2003).

The authors prove the following theorems:

Theorem 1. If W_n is a totally umbilical hypersurface of a recurrent Weyl space W_{n+1}, then W_n is also conformally recurrent.

Theorem 2. Let a totally umbilical hypersurface W_n of a recurrent Weyl space W_{n+1} be conharmonically Ricci-recurrent ($n > 2$). If any net $(v_1, v_2, \ldots, v_n)$ in W_n is a Chebyshev net of first kind with respect to W_{n+1}, it is also a Chebyshev net of the first kind with respect to W_n and the converse is also true.

Theorem 3. Let a totally umbilical hypersurface W_n of a recurrent Weyl space W_{n+1} be conharmonically Ricci-recurrent ($n > 2$). If any net $(v_1, v_2, \ldots, v_n)$ in W_n is a Chebyshev net of the second kind with respect to W_{n+1}, it is also a Chebyshev net of the second kind with respect to W_n and the converse is also true.

Theorem 4. Let a totally umbilical hypersurface W_n of a recurrent Weyl space W_{n+1} be conharmonically Ricci-recurrent ($n > 2$). If any net $(v_1, v_2, \ldots, v_n)$ in W_n is a geodesic net with respect to W_{n+1} it is also a geodesic net with respect to W_n and conversely.

For the entire collection see [Zbl 1008.00022].

Reviewer: A.Neagu (Iaşi)

MSC:

53B15 Other connections
53C40 Global submanifolds

Keywords:

recurrent Weyl space; Weyl connection; affine deformation tensor; umbilical hypersurface; conharmonic transformation