LATTICE CYCLICALLY ORDERED GROUPS

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In this paper the notion of a lattice cyclically ordered group (lc-group) is introduced. Examples for lc-groups are given. Some properties of an order Ob(a) and a stabilizer St(a) of the element a and of transitive groups of a cyclically ordered set (CO-set) are investigated. It is proced that the automorphism's group of a CO-set is a lattice cyclically orderable group.

EQUIAFFINE SPACES OF COMPOSITIONS

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Let $E_q A_N (X_n \times X_m)$ be an equiaffine space of the composition $X_n \times X_m$ with an affinor of the composition a_α^β, Richi's tensor $R_{\alpha\beta}$ and let $R^{\alpha\beta}$ be the reciprocal tensor to $R_{\alpha\beta}$. The tensor $\overline{R}_{\alpha\beta} = a_\alpha^\sigma R_{\sigma\beta}$ is introduced and it is proved that the equiaffine space $E_q A_N$ is a space of a composition if and only if there exists a bivalent covariant tensor $\overline{R}_{\alpha\beta}$ satisfying the equalities $\overline{R}_{\alpha\sigma} R^{\sigma\nu} \overline{R}_{\nu\beta} = R_{\alpha\beta}$,

$$\overline{R}_{\beta\rho} R^{\sigma\rho} (\nabla_{[\alpha} \overline{R}_{\sigma]\delta} R^{\nu\delta} + \nabla_{[\alpha} R^{\upsilon\delta} \overline{R}_{\sigma]\delta}) = \overline{R}_{\alpha\rho} R^{\sigma\rho} (\nabla_{[\beta} \overline{R}_{\sigma]\delta} R^{\nu\delta} + \nabla_{[\beta} R^{\upsilon\delta} \overline{R}_{\sigma]\delta}).$$

One composition in $E_q A_N (X_n \times X_m)$ is called R-composition if in any point of the space any two directions $\overset{n}{\upsilon}_\alpha$ and $\overset{m}{\upsilon}_\alpha$ belonging to the positions $P(X_n)$ and $P(X_m)$, respectively satisfy the equality $R_{\alpha\beta} \overset{n}{\upsilon}_\alpha \overset{m}{\upsilon}_\alpha = 0$.

Characteristics of Cartesian, Chebyshevian, geodesic and R-compositions as well as and characteristics of the equiaffine spaces, containing these special compositions are found. The cases when the space $E_q A_N (X_n \times X_m)$ is symmetric or equieuclidean or with a recurrent Richi's tensor are investigated.

The representations of the tensors $R_{\alpha\beta}$ and $\overline{R}_{\alpha\beta}$ are obtained in the coordinate systems adapted with the special compositions.