Vector field in n-dimensional spaces with connection

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The research of manifolds of homogenous and summarized space is definition of invariant geometric models (invariants, straights, points, k-dimensional planes, quadrics, etc).

The investigation of vector fields and associated with them chapters in Euclide space is connected with the activities of a number of scientists. We should mention U.Aminov, D.Sintson, S.Bushgues and many others. In case of three-dimensional equi-affine space this problem was investigated by Slukhayev and Ch.Gheorgiev.

The bases of differential geometry of vector field in n-dimensional affine space and space of affine connection have been built by prof. P.Tadeyev and O.Kravchuk.

This presentation is dedicated to analysis of results received in geometry of vector fields of space of projective connection Pn, n.

Definition. Vector field in space Pn, n is called the correspondence in which every point $A(u)$ base of space Pn, n corresponds definite point $B(u)$ which belongs to n-dimensional projective space $Pn(u)$. This space, as it is obvious, is a layer over point $A(u)$.

As the result invariant models for vector field in n-dimensional space of projective connection (invariants, points, planes, quadrics) have been built. In case that tensor of curvature and torsion Rijk equals zero all these constructions are results of differential geometry of vector fields in n-dimensional projective space.

Considering subgroups of projective group it is natural to investigate vector fields in correspondence to these subgroups spaces with connection.