

# INDUCED CONNECTIONS ON THE MANIFOLD OF CENTRED PLANES

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A family  $B_r$  of centered planes  $P_m^*$  in projective space  $P_n$  is considered ( $1 \leq r < m(n-m) + n$ ). The investigation is conducted by Laptev's method. Indices take following meanings

$$a, b = \overline{1, m}; \quad \alpha, \beta = \overline{m+1, n}; \quad i, j = \overline{1, r}.$$

We consider for  $B_r$  space of parameters  $V_r$ , in which affine connection  $\Gamma_{jk}^i$  is defined. The principal bundle  $G_s(B_r)$  is associated with family  $B_r$ , in which group connection of the 1-st order  $\Gamma^1 = \{\Gamma_{bi}^a, \Gamma_{\beta i}^\alpha, \Gamma_{ai}^a, \Gamma_{ai}, \Gamma_{ai}\}$  is given. Composite affine clothing of the manifold  $B_r$  is made. This clothing consists of defining of analogs of Cartan's plane  $C_{n-m-1}$  and 2-nd type Norden's normal  $N_{m-1}$ .

**Theorem 1.** *Composite affine clothing of family  $B_r$  induces 6 many-parametrised bunches of connections of the 1-st order. In each of them one induced connection is received.*

Conditions of coinciding of this connections are found. Interpretation of this connections found. Group connection of the 2-nd order  $\Gamma^2 = \{\Gamma^1, L_{bij}^a, L_{\beta ij}^\alpha, L_{\alpha ij}^a, L_{aij}\}$  in prolongation  $G_{s'}(B_r)$  of the principal bundle  $G_s(B_r)$  is given. It is shown that the components of  $\Gamma^2$  form the geometrical object with the components of affine connection's  $\Gamma_{jk}^i$ .

**Theorem 2.** *Group connection  $\Gamma^1$  and affine connection  $\Gamma_{jk}^i$  induce two types of group connection  $\Gamma^2$ .*