ON INVARIANTS OF CONTINUOUS SUBGROUPS OF THE GENERALIZED POINCARÉ GROUP $P(1,4)$

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Abstract

For all continuous subgroups of the group $P(1,4)$ the invariants in the five-dimensional Minkowski space $M(1,4)$ have been constructed. The invariants obtained are one-, two-, three and four-dimensional.

On the base of the invariants obtained the nonsingular manifolds in the spaces $M(1,3) \times \mathbf{R}$ and $M(1,4) \times \mathbf{R}$ invariant under nonconjugate subgroups of the group P(1,4) have been described.

The manifolds obtained have already been used for the symmetry reduction of some important equations of the theoretical physics in the spaces $M(1,3) \times \mathbf{R}$ and $M(1,4) \times \mathbf{R}$.