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Singularities of G-structures

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Resumen

A G-structure is a reduction of the $GL(n)$-principal frame bundle $L(M)$ of a manifold M, $\dim M = n$, to a G-principal subbundle $P \subset L(M)$. All the classical geometrical structures, for example Riemannian metric, symplectic structure, or contact structure, can be described as the corresponding G-structures, and the theory of G-structure provide general tools in order to find invariants of geometric structures. However, the classical theory of G-structures is adapted to the geometrical structures without singularities, for example, a Riemannian metric or a symplectic structure are given by quadratic form fields which are non-degenerate at all points.

In this talk we will explain how to construct G-structures which correspond to geometrical structures with singularities, and to find topological and differential invariants of the singularities. We will exemplify the general theory by considering the contact structure with singularities.

Palabras & frases claves: Singularities, G-structures, contact structure, differential invariant, topological invariant.

Referencias

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