Lenka Czudkova (Masaryk University, Brno, Czech Repubic)
Jana Musilova (Masaryk University, Brno, Czech Repubic)
Non-holonomic constraint forces in theory of field (geometry & physics)

`Abstract:` We study non-holonomic constraint forces using the geometrical theory of non-holonomic constrained systems on fibered manifolds with n-dimensional base and their prolongations (proposed by Krupkova). Properties of so-called Chetaev forces, that arise as a result of this geometrical theory, are illustrated on concrete physical examples concerning continuum mechanics and elasticity theory. By means of these examples the geometrical as well as physical aspects of the theory are analyzed. We sketch the quite general approach to a problem of non-holonomic constraint forces.