

Yoshinori Machida (Numazu College of Technology, Numazu-shi, Shizuoka, Japan)

Differential equations associated with cone structures

Abstract: A Goursat equation is a single 2nd order PDE of parabolic type and with Monge integrability. It is constructed from a contact manifold with a Legendre cone field. In a similar way, by considering a manifold with a cone field, we can construct a single 1st order PDE associated with the cone structure. Both kinds of equations have relations to twistor theory such as the projective duality and the Lagrange-Grassmann duality.