

Explicit Solving of the Natural Partial Differential Equations of Minimal Surfaces

Ganchev Georgi

Institute of Mathematics and Informatics, Bulgarian Academy of Sciences,
Bulgaria
ganchev@math.bas.bg

ABSTRACT

We consider canonical parametrization of minimal surfaces in Euclidean space \mathbb{R}^3 and minimal spacelike or timelike surfaces in Minkowski space \mathbb{R}_1^3 . Using the Weierstrass canonical (principal or asymptotic) representation of minimal surfaces, we give explicitly the solutions of their natural PDE's.

We consider canonical parametrization of minimal surfaces in Euclidean space \mathbb{R}^4 and solve explicitly their system of natural PDE's.