

Timelike Surfaces with Parallel Normalized Mean Curvature Vector Field

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We study timelike surfaces with parallel normalized mean curvature vector field in the Minkowski 4-space. On any such surface we introduce special isotropic parameters (which we call canonical parameters) that allow us to describe these surfaces in terms of three geometrically determined functions. We prove that any timelike surface with parallel normalized mean curvature vector field parametrized by canonical parameters is determined uniquely up to a motion by three functions satisfying a system of three partial differential equations.

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