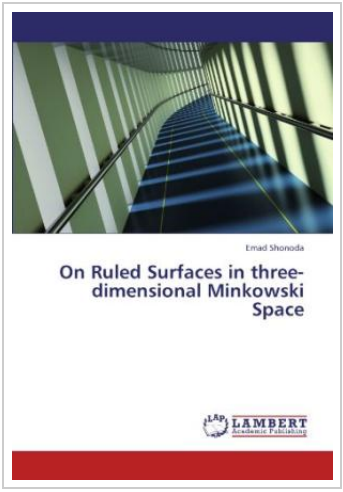

On Ruled Surfaces in three-dimensional Minkowski Space

By Emad Shonoda

LAP LAMBERT Academic Publishing. Paperback. Book Condition: New. Paperback. 100 pages. Dimensions: 8.7in. x 5.9in. x 0.2in.In a Minkowski three dimensional space we define a semi-inner-product based on the so-called cosine-Minkowski function. We also construct an orthogonal 3D frame in Birkhoff sense, which is canonically adapted to ruled surfaces: beginning with the generator direction we complete this frame using the strictly convex and centrally symmetric unit ball B, which is described either by supporting function or vector representation. Based on the left-orthogonality defined by ball B, the striction curve of a ruled surface in a Minkowski 3-space can be declared in analogy to the Euclidean case. We define the new vector called Deformation vector which helps us to find the Frenet-Serret formulae of the ruled surface in the Minkowski three dimension spaces. In these formulae we insert the M-curvatures and M-Torsions with respect to the Minkowski frame. We also can define a covariant differentiation in a Minkowski 3-space, with this can declare geometric M-parallelity of the vector field of the generator of a skew ruled surface along its Minkowski striction curve. Using the second fundamental form the relation between Euclidean and Minkowski normal vectors is given. This item ships from...

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