AFFINE TRANSLATION SURFACES WITH $\Delta^{II} r_i = \lambda_i r_i$ IN THE GALILEAN 3-SPACE

Aliya Naaz Siddiqui

Department of Mathematics Jamia Millia Islamia New Delhi-110025, India
E-mail: aliyanaazsiddiqui9@gmail.com

Abstract—*A translation surface is the space obtained by identifying pairwise by translations the sides of a collection of plane polygons. The simplest example of a translation surface is obtained by gluing the opposite sides of a parallelogram. It is a flat torus with no singularities. The translation surfaces, among the family of surfaces in classic differential geometry, have been commonly examined since early 1900s.*

In this paper, we investigate the affine translation surfaces in the 3-dimensional Galilean space G^3. Further, we classify the affine translation surfaces in G^3 under the condition $\Delta^{II} r_i = \lambda_i r_i$, where $\lambda_i \epsilon \mathbb{R}$ and Δ^{II} denotes the Laplace operator with respect to the fundamental form II.

Keywords: *Galilean space; affine translation surface; Laplace operator.*

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