

---

# ON TRANSLATION SURFACES IN MULTIPLICATIVE CALCULUS

---

Emel Karaca

*Dept. of Mathematics, Ankara Hacı Bayram Veli University, Ankara, Turkey*

## ABSTRACT

In this study, generating curves of translation surfaces are examined with some special curve pairs in multiplicative calculus. With the results obtained from these pairings, the developable and minimal translation surfaces are characterized by using multiplicative calculus in Euclidean 3-space. Furthermore, the surface curvatures of the translation surface are obtained. For a better understanding of the results, examples are given and their drawings are made with the help of Mathematica.

**Keywords** Translation surface · Multiplicative calculus · Special curve pairs

## References

- [1] Has A., Yılmaz B., Translation surfaces generating with some partner curve, Commun. Fac. Sci. Univ. Ank. Ser. A1 Math. Stat., 73(1): 165-177, 2024.
- [2] Liu H. L., Translation surfaces with constant mean curvature in 3-dimensional spaces, Journal of Geometry, 64, 141-149, 1999.
- [3] Lone M. S., Karacan M. K., Tuncer Y., Es H., Translation surfaces in affine 3-space, Hacet. J. Math. Stat., 49(6): 1944–1954, 2020.
- [4] Yuan Y., Liu H. L., Some new translation surfaces in 3-Minkowski space, Journal of Math. Res. and Exp., 31(6): 1123-1128, 2011.