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A CERTAIN CLASS OF SURFACES ON PRODUCT TIME SCALES WITH INTERPRETATIONS FROM ECONOMICS

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ABSTRACT

In this study, we consider a graph surface associated to Cobb-Douglas production function in economics on product time scales. We classify this surface based on the flatness and minimality properties for several product time scales. Then, we interpret the obtained results from the perspective of production theory in economics. Therefore, we extend the known results in Euclidean geometry by considering time scale calculus.

REFERENCES

- [1] S. Hilger, Analysis on measure chains-A unified approach to continuous and discrete calculus, *Results in Mathematics*, 18, pp.18-56(1990).
- [2] M. Bohner and A. Peterson, *Dynamic equations on time scales: an introduction with applications*, Boston (MA), Birkhuser Boston Inc, (2001).
- [3] S. P. Atmaca and O. Akguller, Surfaces on time scales and their metric properties, *Advances in Difference equations*, 1702013, pp.1-10 (2013).
- [4] G. E. Vilcu, A geometric perspective on the generalized Cobb–Douglas production functions, *Applied Mathematics Letters*, 24, pp.777–783 (2011).
- [5] X. Wang, A geometric characterization of homogeneous production models in economics, *Filomat*, 30(13), pp.3465-3471 (2016).
- [6] C. W. Cobb, P. H. Douglas, A theory of production, *American Economics Review*, 18, pp.139–165 (1928).
- [7] T. Gulsen and E. Yilmaz, Spectral theory of Dirac system on time scales, *Applicable Analysis*, 96(16), pp.2684-2694 (2017).
- [8] M. E. Aydin, A. Mihai, Classifications of quasi-sum production functions with Allen determinants, *Filomat*, 29(6), pp.1351–1359 (2015).

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