

Inverse Forms of Pachpatte-Type Dynamic Inequalities within Delta and Nabla Calculi

Zeynep Kayar¹ and Billur Kaymakçalan²

¹ Department of Mathematics, Van Yüzüncü Yıl University, Van, Turkey

² University of Turkish Aeronautical Association, Faculty of Engineering, Ankara, Turkey

zeynepkayar@yyu.edu.tr, billurkaymakcalan@gmail.com

key-words: The nabla time scale calculus, Hardy-Copson inequality, Bennett-Leindler inequality, Pachpatte's inequality, concavity.

Abstract:

Through the framework of concavity, we derive novel reversed nabla Pachpatte-type dynamic inequalities. These formulations not only encompass their corresponding delta analogues but also subsume both discrete and continuous versions as particular instances. Moreover, in the absence of concavity, they naturally lead to generalized forms of delta and nabla Bennett–Leindler-type dynamic inequalities [1].

References

- [1] Kayar Z., Kaymakçalan B. and Pelen N.N., (2021), Bennett-Leindler type inequalities for time scale nabla calculus, *Mediterr. J. Math.*, vol. 18, pp. 1-18