Year: 2021 | **Vol.: 99** | **Fasc.: 1-2**

Title: Extension of the best polynomial approximation operator in Musielak–Orlicz spaces

Author(s): Tengiz Kopaliani, Nino Samashvili and Shalva Zviadadze

In this paper, we considered the best polynomial approximation operator defined in the so-called Musielak–Orlicz space. Namely, we investigated the existence and uniqueness of the best polynomial approximation in Musielak–Orlicz space L^{Φ}. We extended the best polynomial approximation operator from L^{Φ} to L^{φ}, where $\varphi(x,t) = \Phi'_{t+}(x,t)$. In addition, we established some properties of the extended best polynomial approximation operator.

Address:
Tengiz Kopaliani
Department of Mathematics
Ivane Javakhishvili Tbilisi State University
13 University St.
Tbilisi, 0143
Georgia

Address:
Nino Samashvili
College of Engineering and Technology
American University of the Middle East
Egaila, Block 6, 15453
Kuwait

Address:
Shalva Zviadadze
Department of Mathematics
Ivane Javakhishvili Tbilisi State University
13 University St.
Tbilisi, 0143
Georgia