

International Workshop on Dynamical Systems and Applications (IWDSA 2019)

In Memory of Prof. Dr. Aydın Tiryaki

Gazi University, Ankara, Turkey, 3-4 May 2019

Explosive solutions for a nonlinear integro-differential equations with variable exponents

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Abstract

In this talk, we consider a nonlinear integro-differential equations with variable exponents. Firstly, we give information the Sobolev and Lebesgue spaces with variable exponents (see [1, 4]). Later, we prove nonexistence of global solutions under suitable conditions. Our result extends a previous nonexistence result in [2, 3].

Key Words: Integro-differential equations, Nonexistence, Variable exponents.

References

- [1] L. Diening, P. Hasto, P. Harjulehto, M.M. Ruzicka, Lebesgue and Sobolev Spaces with Variable Exponents, Springer-Verlag, 2011.
- [2] S.A. Messaoudi, Blow up and global existence in a nonlinear viscoelastic wave equation, Math. Nachr., 260 (2003), 58-66.
- [3] S.H. Park, M.J. Lee, J.R. Kang, Blow up results for viscoelastic wave equations with weak damping, Appl. Math. Lett., 80 (2018), 20-26.
- [4] E. Piskin, Sobolev Spaces, Seckin Publishing, 2017 (in Turkish).