New phenomena in the spectral analysis of non-homogeneous differential operators

Prof. Vicentiu D. Radulescu

Simion Stoilow Mathematics Institute of the Romanian Academy and University of Craiova, Romania

Abstract

We present several striking phenomena in the spectral analysis of differential operators with variable exponent. We point out the existence of a continuous spectrum, as well as various concentration phenomena of the spectrum. The research is motivated by models arising in electrorheological fluids or in image processing.