Editorial

Some Recent Developments in Applied Functional Analysis

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From its early stages, the intensive development of functional analysis and the remarkable advances of its methods cannot be explained without its link with other areas of mathematics and, above all, its role as an essential framework for numerical analysis and computer simulation, PDEs, modeling real-world phenomena, variational inequalities, or optimization, just to name a few.

In this special issue we highlight some aspects of functional analysis which are used in connection with other branches of mathematics or science, either as a direct application or as a theoretical result which is essential for such an application.

Although it is not possible to collect here the huge production of the research activity on this vast field of modern mathematics, the selected works gather together a range of topics which reflect some of the current research on applied functional analysis: bases in Banach spaces, wavelet transforms, fixed point theory, and applications to ODEs, electronic circuit simulation, or numerical solution of PDEs, integral equations, or problems on option pricing in mathematical finance. In this way, we have achieved one of our purposes, which is the exchange of ideas among researchers working both in abstract and applied functional analysis.

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