PARTIAL DIFFERENTIAL EQUATIONS WITH NONSTANDARD GROWTH

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Aims: The aim of this Session is to discuss the theoretical and numerical aspects of the analysis of Partial Differential Equations with nonstandard growth. This class of equations embraces the equations whose nonlinear structure may vary in the space/time domain and is allowed to depend on the independent variables or even in the solution itself. During the last decades, PDEs of this type have been the focus of attention of many researchers. On the one hand, the interest in the study of such equations is explained by their applications in the mathematical modelling of the real world processes, in particular, in the models of fluid dynamics or in processing of digital images. On the other hand, their theoretical study leads to challenging problems related to the issues of existence, uniqueness and qualitative properties of the solutions.