

# First Joint Meeting Brazil Italy of Mathematics

## Special Session: Inverse Problems for PDE

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**Title:** Inexact Newton combined with gradient methods in Banach spaces

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**Abstract:** Inexact Newton methods have proven to be a powerful class of iterative methods for solving nonlinear ill-posed problems in Hilbert spaces. In order to realize such a method, one must linearize the original equation around the current iterate and then apply a regularization technique to solve the resulting linear system. We propose the adaptation of some classical gradient-type regularization methods for solving the linear systems in a relatively general Banach space setting.