

Analyzing Quasi-Optimality – Choosing the Regularization Parameter without Knowing the Noise Level

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ABSTRACT

For solving inverse problems one requires regularization and the choice of an appropriate regularization parameter. The quasi-optimality principle is a parameter choice method, which does not require the knowledge of the operator, smoothness of the solution and the noise level.

In this talk we will analyze this method, in particular we will consider:

- Tikhonov with deterministic source conditions and deterministic/stochastic noise
- General Regularization methods with stochastic source conditions and stochastic noise.

Furthermore we will give account on the situations where the method will fail.