

Second order iterative regularization methods for ill-posed inverse problems

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I will present an initial theory regarding the Second Order Asymptotical Regularization (SOAR) method for the stable approximate solution of ill-posed linear problems in Hilbert spaces, which are models in the natural sciences, imaging and engineering. I will show the regularizing properties of the new method, as well as the corresponding convergence rates. The numerical implementation of SOAR is developed based on the damped symplectic scheme. Some examples are given to show the advantages of SOAR.

References:

[1] <https://arxiv.org/abs/1804.06735>

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