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Regularization functionals involving discontinuous operators.

Starting point for this talk is the paper on level set methods for inverse problems by Fadil Santosa (1995). In this talk we analyze regularization methods which in the asymptotic limit can be considered to approximate the evolutionary level set methods of Santosa. These regularization functionals involve unbounded operators. A convergence analysis of variational methods involving unbounded operators is developed, and the interpretations of the results are given. (Received September 26, 2005)