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Mila Nikolova*, 61 av. du President Wilson, 94235 Cachan Cedex, France. *Data fidelity terms for image and signal restoration.*

We focus on the minimizers u^* of cost functions F of the form $J(u) = F(u; v) + cG(u)$ where u corresponds to the sought-after signal or image, v is the observed data, F is a data-fidelity term, G is a regularization term and $c > 0$ is a parameter. Usually F is the L^2 norm of the residual. However, other choices can also be envisaged. In this talk we explore how the the data-fidelity term F determines essential properties of the solution u^* . A discussion on the statistics of the noise contained in data v is also proposed. (Received September 28, 2005)