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I will provide a necessary and sufficient condition for the perfect recovery of sparse solutions of underdetermined linear systems using ℓ^1 minimisation. One seeks to recover a signal x_0 of size n from $m \ll n$ measurements $y = Ax_0$. One usually uses the best basis ℓ^1 optimization framework $x^* = \mathrm{argmin}_x |x|_1$ sub. to $Ax = y$. Classical conditions for the recovery $x^* = x$ involve a bound on the sparsity of x_0 taking into account the well-conditioning of A. I will go one step further by giving a necessary and sufficient exact recovery condition that exploits both the sparsity of x_0 and the sign of x_0 on its support. This condition ensures the ℓ^2 convergence of the relaxed solution $x(\lambda) = \mathrm{argmin}_x |Ax - y|^2 + \lambda |x|_1$ to x^* when $\lambda \to 0$. This criterion ensures a robustness of the recovery with respect to low noise to the measurements y. This condition is far from trivial to asset, but we derive a greedy scheme that estimates it efficiently. We provide numerical experiments that show the relevance of our criterion and its ability to characterize recovery where many traditional methods fail. In particular this new condition sheds light on the efficiency of compressive sensing recovery. (Received March 22, 2007)