The aim of this thesis is to study and describe regularizing properties of iterative Krylov subspace methods for finding a solution of linear algebraic ill-posed problems contaminated by white noise. First we explain properties of this kind of problems, especially their sensitivity to small perturbations in data. It is shown that classical methods for solving approximation problems (such as the least squares method) fail here. Thus we turn to explanation of regularizing properties of projections onto Krylov subspaces. Basic Krylov regularizing methods are considered, namely RRGMRES, CGLS, and LSQR. The results are illustrated on model problems from Regularization toolbox in MATLAB.