

The diploma thesis deals with the construction and properties of image deblurring problems along with approaches to their solution. We focus on Krylov subspace methods LSQR, GMRES and RRGMR, which are known for their regularization properties. We analyze the convergence behavior of the methods, the time efficiency and the quality of the approximate solution. Next, we present block Krylov subspace methods, which are not well explored in the field of image processing. These methods solve a system of linear equations with a multiple right-hand side and were created by the generalizing Krylov subspace methods, which are used for solving linear equations with a vector right-hand side. Finally, we perform numerical experiments investigating the influence of various factors on the results of image deblurring and the time complexity of individual methods, and we compare block and non-block methods.