

**TECHNIQUE OF DIGITAL X-RAY SEED IMAGES PREPARATION FOR VISUAL IMAGE
INTERPRETATION**

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The paper discusses the main technical problems in obtaining digital X-ray images of seeds: spherical, nonlinear, geometric distortions, uninformative noise, artifacts, inhomogeneity of radiation absorption when passing through the studied object. The ways of their elimination are proposed and explained. The MATLAB software environment is used to create a technique for preparing digital X-ray images of seeds for visual interpretation. A description and examples of the functions operation for improving the quality of digital X-ray images of seeds preceding the visual interpretation of hidden defects are given (background correction, signal normalization, pattern recognition, marking and transformation of regions of interest, displaying regions of interest). The solutions of similar problems to improve the quality of initial digital images, including X-ray images in medicine, are discussed. Information on existing methods for analyzing digital X-ray images of seeds, their advantages and limitations is presented. The significance of the created technique for the implementation of the developed national standard GOST R «Agricultural Seeds. Methods of Digital X-ray» and X-ray examinations of seed lots is justified.

Key words: microfocus X-ray of seeds, image quality improvement, seed image analysis, seed quality.