# Preprocessing and Discrete Tomographic Reconstruction in Neutron Radiography

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Neutron tomography can be used and applied for non-destructive specimen examination. It is typical that the projection images are noisy. This effect can be reduced by preprocessing. Since projection acquisition is a time consuming and costly procedure, the goal is to perform the reconstruction using only a few projections. However, mathematically not all the classes of functions can be reconstructed from a few projections. The discrete tomography seems to be a suitable tool to solve this problem by the assumption, that the object consists of only a few known materials.

The applied preprocessing steps are introduced, and a discrete tomographic reconstruction method is presented, which considers and solves the problem as a combinatorial optimization task. Their efficiency is demonstrated using phantom and real input data.