

The effectiveness of cosmic-ray muon tomography has been shown in application ranging from pyramid imaging the spent fuel dry-cask storage verification. While promising results have been demonstrated, long measurement times limit the attractiveness of cosmic-ray muon radiography as a passive verification method. The work presented here highlights comparisons of two different methods of image reconstruction that were applied to cosmic-ray muon tomographic reconstruction. A plenoptic depth of field technique and a more traditional backprojection technique are characterized using quantifiable image metrics such as contrast, sharpness, and smoothness to determine the effectiveness for creating images that would be useful in a verification scenario. Recommendations are also drawn to optimize future cosmic-ray muon tomography measurements to reduce the time required to reconstruct usable and reliable images of spent fuel dry cask storage containers.