[2021/09/30]

Prof. Francesco Lamonaca

Editor-in-Chief

*ACTA IMEKO*

Dear Editor:

I wish to submit an article for publication in *ACTA IMEKO*, titled “Dose reduction potential in dual energy subtraction chest radiography based on the relationship between spatial-resolution property and segmentation accuracy of the tumor area.”

The abstract of this study was presented at TC13-1 Medical Imaging and Quality Assessment at IMEKO2021.

We clarified the relationship between the spatial-resolution property in the mass region of dual energy subtraction chest radiograph and the extraction accuracy of the mass region using deep learning.

In the proceedings, only the value of the Dice coefficient was evaluated, but in this paper, linear regression analysis was performed to evaluate the correlation between the spatial-resolution property and the accuracy of mass region extraction in each region.

We also noted that the system used in this study has a very high detection quantum efficiency, which allows for a high degree of freedom in adjusting the balance between sharpness and graininess. Therefore, selecting parameters with good spatial-resolution properties for multi-frequency processing in single-exposure dual-energy subtraction chest radiography using FPD could lead to further dose reduction.