Comparison of PET performance in clinical examination among PET facilities

Toshiaki Sasaki\textsuperscript{1,2}, Koichiro Sera\textsuperscript{1} and Keizo Ishii\textsuperscript{2}

\textsuperscript{1}Cyclotron Research Center, Iwate Medical University
348-58 Tomegamori, Takizawa, Iwate 020-0173, Japan

\textsuperscript{2}Department of Quantum Science and Energy Engineering, School of Engineering, Tohoku University
6-6-1-2, Aoba, Aramaki, Aobaku, Sendai, Miyagi 980-8579, Japan

Abstract
There are several guidelines for PET performance evaluation. Most of them require a lot of time and strict conditioning. Here we selected 5 items from the guidelines with some adjustments on which we evaluated and compared PET performances of seven facilities for the purpose of clarifying why and how PET quantitative values are different among facilities. The results show that the data vary even with the same type of PET machine when the image reconstruction method is different. This suggests that the terms of data reconstruction have to be considered as well as the difference of PET performance when we refer PET data of other facilities for clinical purpose.