^{117m}Sn - The Promising Radioisotope for Use in Nuclear Medicine

Natalia Młyńczyk
Institute of Physics, University of Silesia in Katowice, Katowice, Poland

Adam Konefał
Institute of Physics, University of Silesia in Katowice, Katowice, Poland

Abstract

This review paper is dedicated to ways of production and medical applications of the tin isomer ^{117m}Sn in the context of its wider use in nuclear medicine, particularly, in diagnostics. Until now, ^{117m}Sn has been used as an effective agent for the palliation of pain from bone metastases. However, the energy of gamma-rays emitted by ^{117m}Sn is optimal for scintigraphy and, moreover, this tin isomer can also be connected to many different ligands. Tin-117m can be effectively produced in many nuclear reactions without the use of research reactors, which is a very big advantage particularly in the light of the perceptible crisis in the production of technetium-99m.