

Development of New Electron Irradiation Based Technology for Technetium-99m Production,
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KIPT, Kharkov, Ukraine - Technetium-99m provides now
up to 90% analyses in nuclear medicine diagnostics.
Traditional technology of its parent nucleus molybdenum-
99 is production based on fission radiochemistry that is
rather complicated and potentially dangerous for
environment. Authors demonstrated earlier a possibility of
Mo-99 generation using irradiation of Mo-target of natural
isotopic content with bremsstrahlung of high-current electron
linac. Preliminary test of Tc-based radiopharmaceuticals
thus produced confirmed their high isotopic purity. Report
contains the results of investigation in physical ground of
new technology including computer modelling of beam-
target interaction and experimental data concerning
optimization of Mo-99 generation process as well.

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[1] V.L. Uvarov et al. Bull. Amer. Phys. Soc. 42
(1997) 1338