

Prof Tamon Kusumoto

National Institute for Quantum Science and Technology (QST)

Radiation Measurement Research Group

Chiba, Japan

Changes in yields of water radiolysis species in the presence of nanoparticles: Towards the elucidation of the radiosensitization mechanisms

Wednesday, 22nd April 2026, h. 11.30

Castagnoli Room, Physics department, via Pietro Giuria 1, Torino

Abstract:

The applicability of nanoparticles, e.g., gold nanoparticles and nanodiamonds, as a radiosensitizer has been discussed. The enhancement of biological effectiveness was reported by biological experiments using living cells and mice. However, the radiosensitizing mechanisms are not unveiled. To understand the radiosensitizing mechanisms from a point of view of radiation chemistry, we have addressed to quantitatively evaluate changes in yields of water radiolysis products. In the present study, we especially focus on changes in yields of hydrogen peroxide and OH radicals in the presence of gold nanoparticles and nanodiamonds.

For information: Federico Picollo (federico.picollo@unito.it)