

**ELECTRON INTERACTIONS DATA BASE AS A STEP TOWARDS A
DATA BASE FOR RADIATION DAMAGE IN BIOMOLECULAR SYSTEMS I**

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The study of radiation damage processes in biomolecular systems has been in focus of the European network organization COST (Co-operation in Science and Technology) since the adoption of COST Action P9 that started in 2003 and has been succeeded by COST Action MP1002 entitled "Nano-scale insights in ion beam cancer therapy (Nano-IBCT)". Recently it has been decided to create a comprehensive data base for radiation damage that would comprise both experimental and theoretical data relevant to the several topical areas of radiation damage processes. These include five areas: TA1 Ionic interactions, TA2 Electron/positron interactions, TA3 Photonic Interactions, TA4 Multiscale RADAM phenomena and TA5 Radiobiological scale effects. The planned data base, RADAM DB, will exploit the underlying infrastructure of VAMDC, Virtual Atomic Molecular Data Centre, with its applications capable of combining, extracting and processing data from all VAMDC member data bases. Data base for electron/positron interactions with biomolecules will collect data of cross sections (elastic, excitation, ionization, positronium formation, resonances), molecular fragmentation processes (dissociative electron attachment, relative fragmentation yields and mechanisms, DNA strand breaks) secondary particle production (yields of excited or ionized particle energy spectra, radicals productions, annihilation), energy transfer and doses (linear energy transfers, nanodosimetry, electron excitation exchanges, alignment and orientation parameters), swarm and transport processes (effective parameters, integral and momentum transfer cross sections, transport code results). Data will be structured according VAMDC standard documentation and XSAMS reference guide.

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