

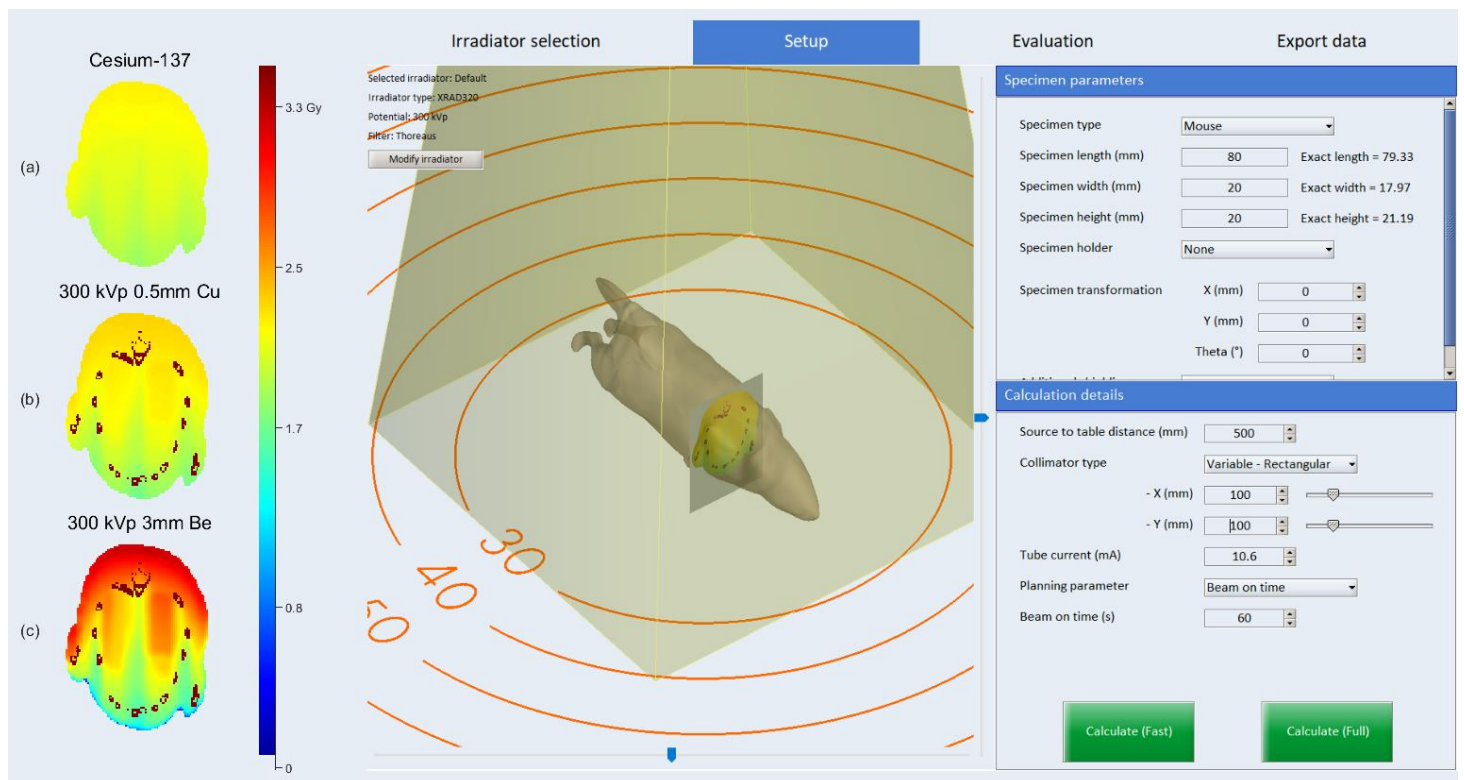


SmART-RAD

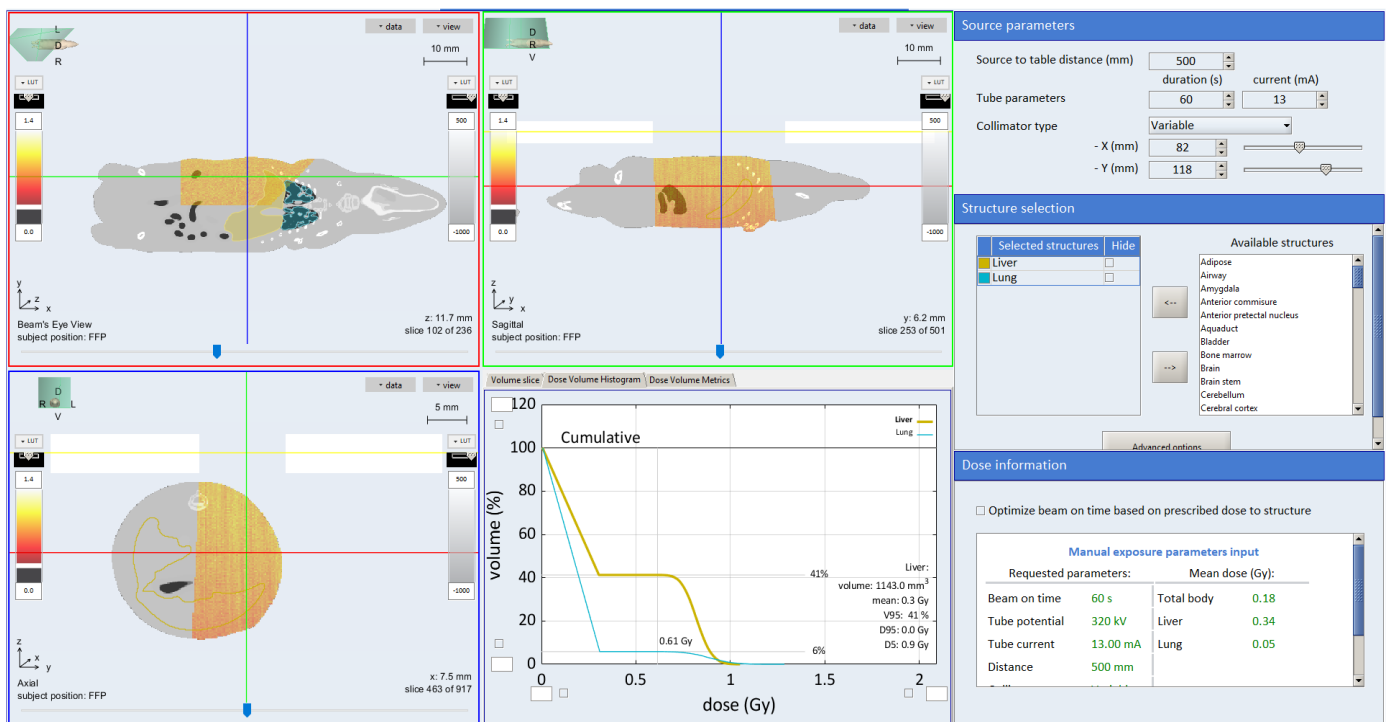
Dose calculation software for Non-Image Guided Irradiators

Calculating dose distributions and standardized reporting in pre-clinical radiobiology research made easy

- ✦ Dose calculations by hand based on calibration data of central dose fields provide no information about the dose distribution inside specimens, are inaccurate and not feasible for complex setups.
- ✦ The switch from Cs-137 to X-ray irradiation significantly changes dose gradients and 3D dose distributions.
- ✦ Dosimetry reporting needs to be accurate and complete to allow for reproducible results.



Dose calculations using 3 different radiation sources to deliver 2 Gy mean dose to the liver. Note significant differences in 3D dose distribution between (a) Cs-137, and (b) 300 kV X-rays with hard filter and (c) no filter



SMART-RAD FEATURES

- ✦ User-friendly interface which does not require dosimetry expertise
- ✦ Large animal model database (more than 6000 rodent models)
- ✦ Fully customizable Monte Carlo 3D dose calculation
 - ❖ material composition of the specimen, geometric setup, shielding or fixation material, field size, energy spectrum, source to axis distance, backscatter material
- ✦ Customizable geometries such as shielding, added tumors, well plates,...
- ✦ Advanced dose display and analysis tools
- ✦ Publication-grade graphics
- ✦ Dose calculations can be completed in advance, during or after treatment
- ✦ Runs on standalone computer
- ✦ Automated calculations improve workflow, accuracy and reproducibility
- ✦ Standardized reporting following published guidelines