

Advanced Radiation Analysis Calculation Tool For Space Applications

- **3D Model Import & Design**

Easy .Step file import

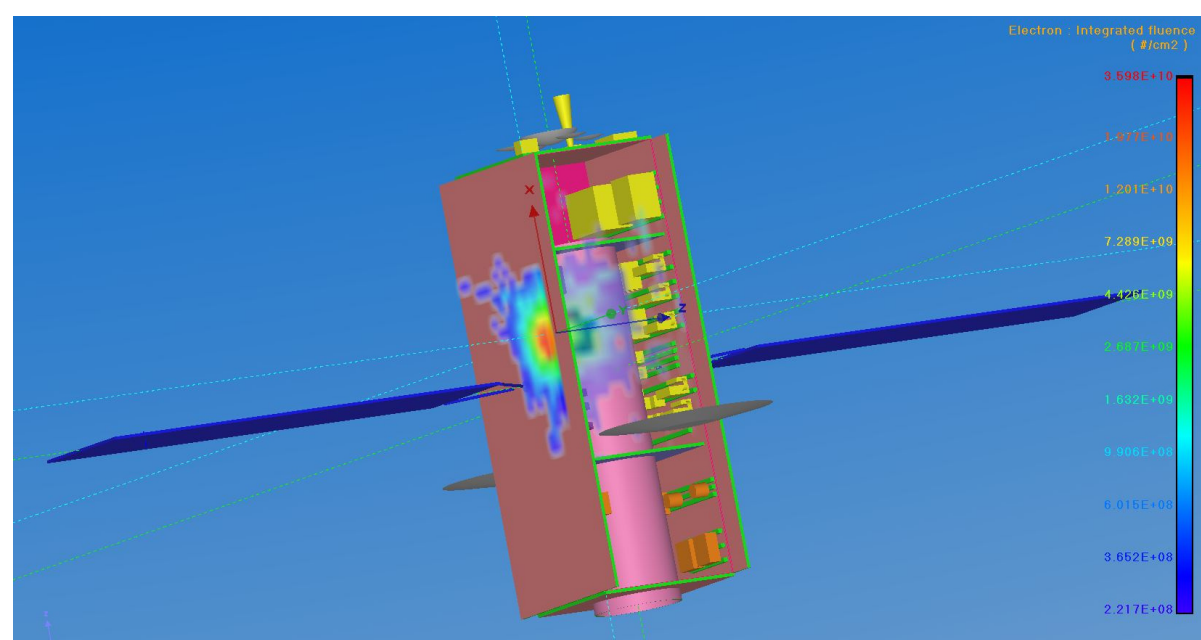
- Particle transport with **Forward** and **Reverse** Monte Carlo methods for both dose and charging

- Sector analysis module **for radiation dose calculation/Six faces equivalent thickness tool**

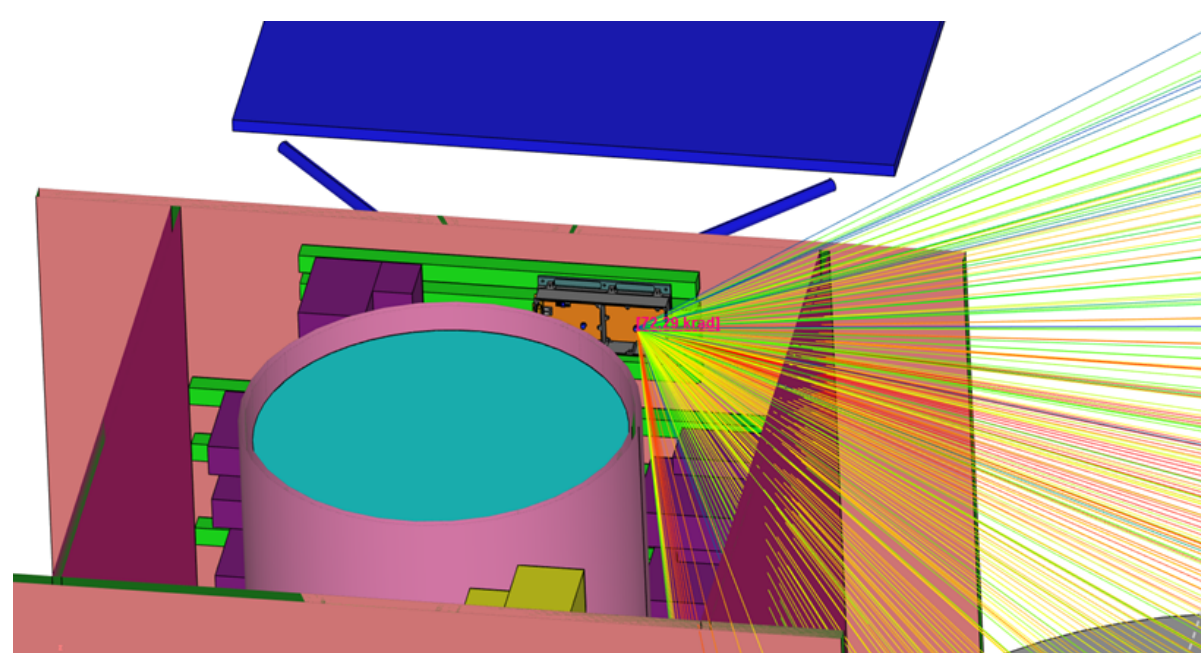
- **Internal charging analysis**

- **Net** electron current density between two points
- **Incident** electron current density
- Charge deposition rate
- 3D time-dependant electric field (option)

- Integration of a **scripting module** for interacting with the main FASTRAD[®] entities

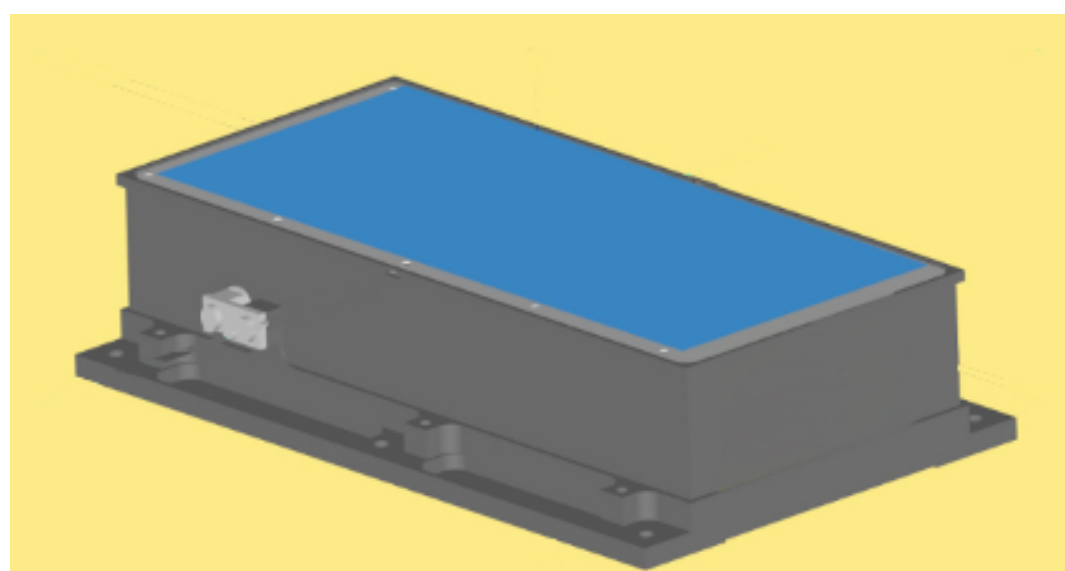


Graphical user interface



Display of the smallest shielding thicknesses

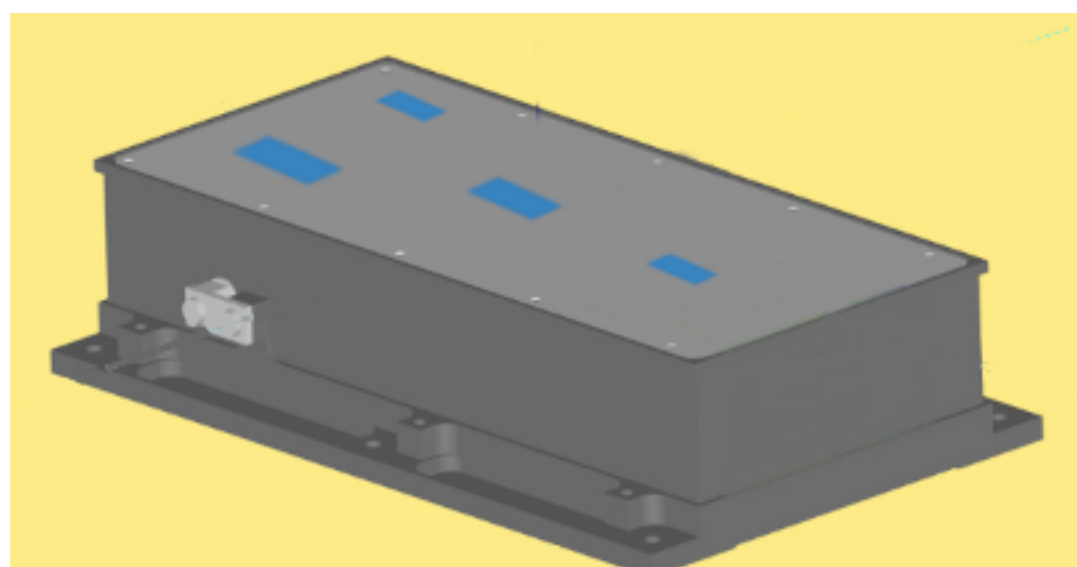
WITHOUT FASTRAD[®]



Uniform & unrefined shielding
Total mass of 360g



WITH FASTRAD[®]



Spot shielding on critical parts
Total mass of 12g

YOUR BENEFITS

- **Cost reduction by:**

- Decreasing overall shielding mass
- Improving radiation sensitive equipment reliability

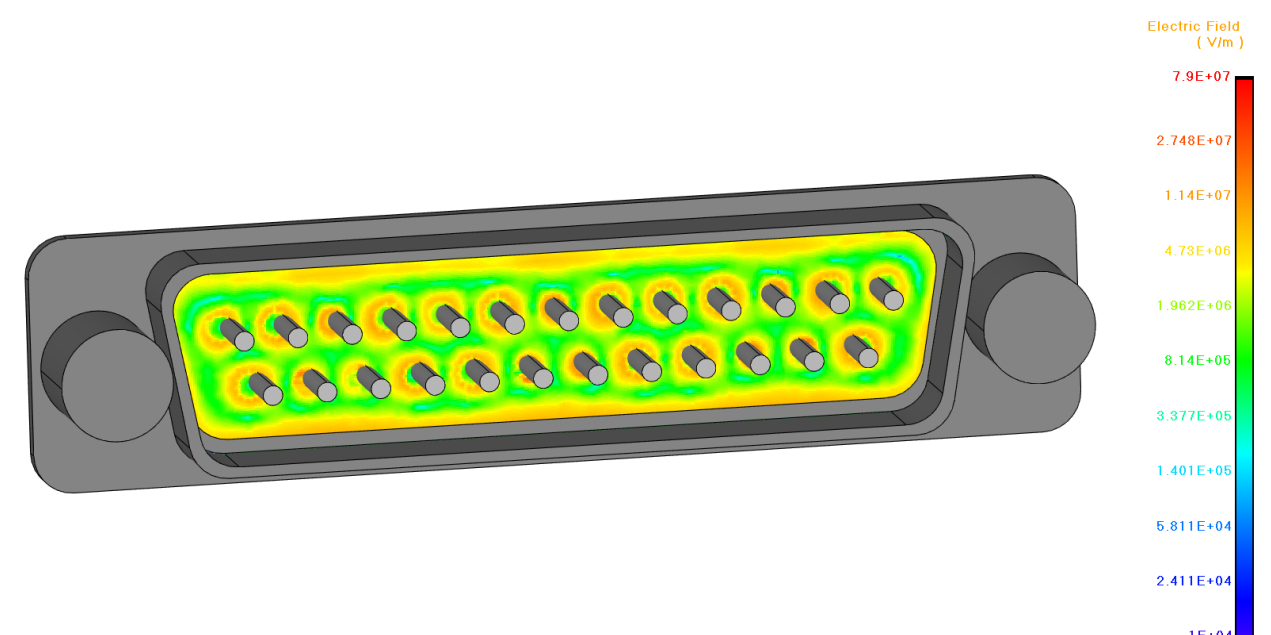
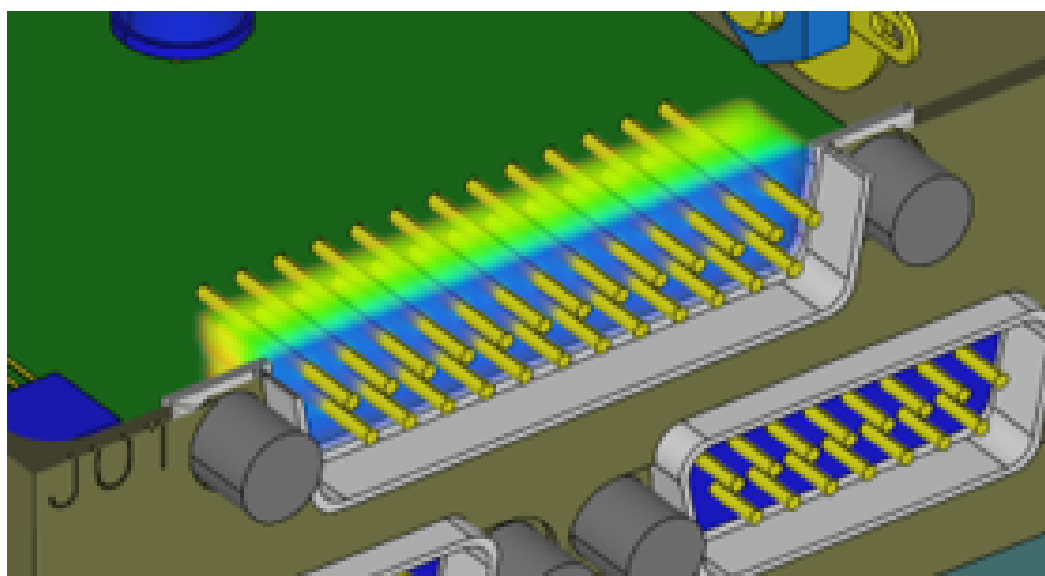
- Great time saving tool for 3D modeling
- Precision of Monte Carlo method
- Powerful decision-support tool
- User-friendly & customized interface, easy handling

SAVE TIME ON YOUR PROJECTS!

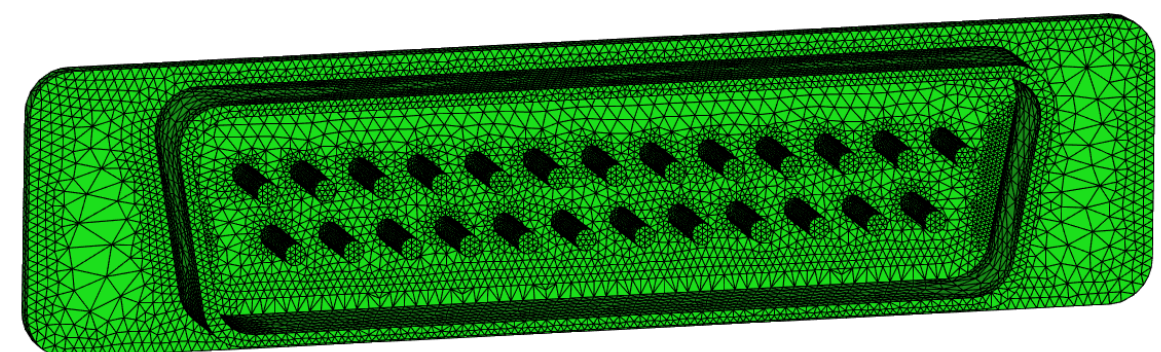
Leading radiation software for 18 years
Used daily by 150+ clients worldwide

Internal Charging Analysis - 3D Time-Dependant Electric Field (option)

- Time-dependant calculation of potential and **electric field in 3D** using the finite element method
- ESD risk assessment though 3D and time-dependant **mapping**



- The charge deposition rate calculated by a Reverse or Forward Monte Carlo particle transport is the source term for the calculation of the electric field



- Mesh tool: create, display and refine a tetrahedral volume mesh
- Several conductivity models are available: radiation-induced conductivity, temperature and electric field dependant conductivity, constant conductivity, user defined electric field-induced conductivity

YOUR BENEFITS

- Single intuitive tool for all radiation analysis
- No additional modeling effort: use the same geometry model as the dose analysis
- Use real geometry with Reverse Monte Carlo and tetrahedral mesh
- Geometry/shielding/design optimization to limit ESD risk
- Time and money saved on space projects