RADEC

Making your technology radiation hardened

radec.ch

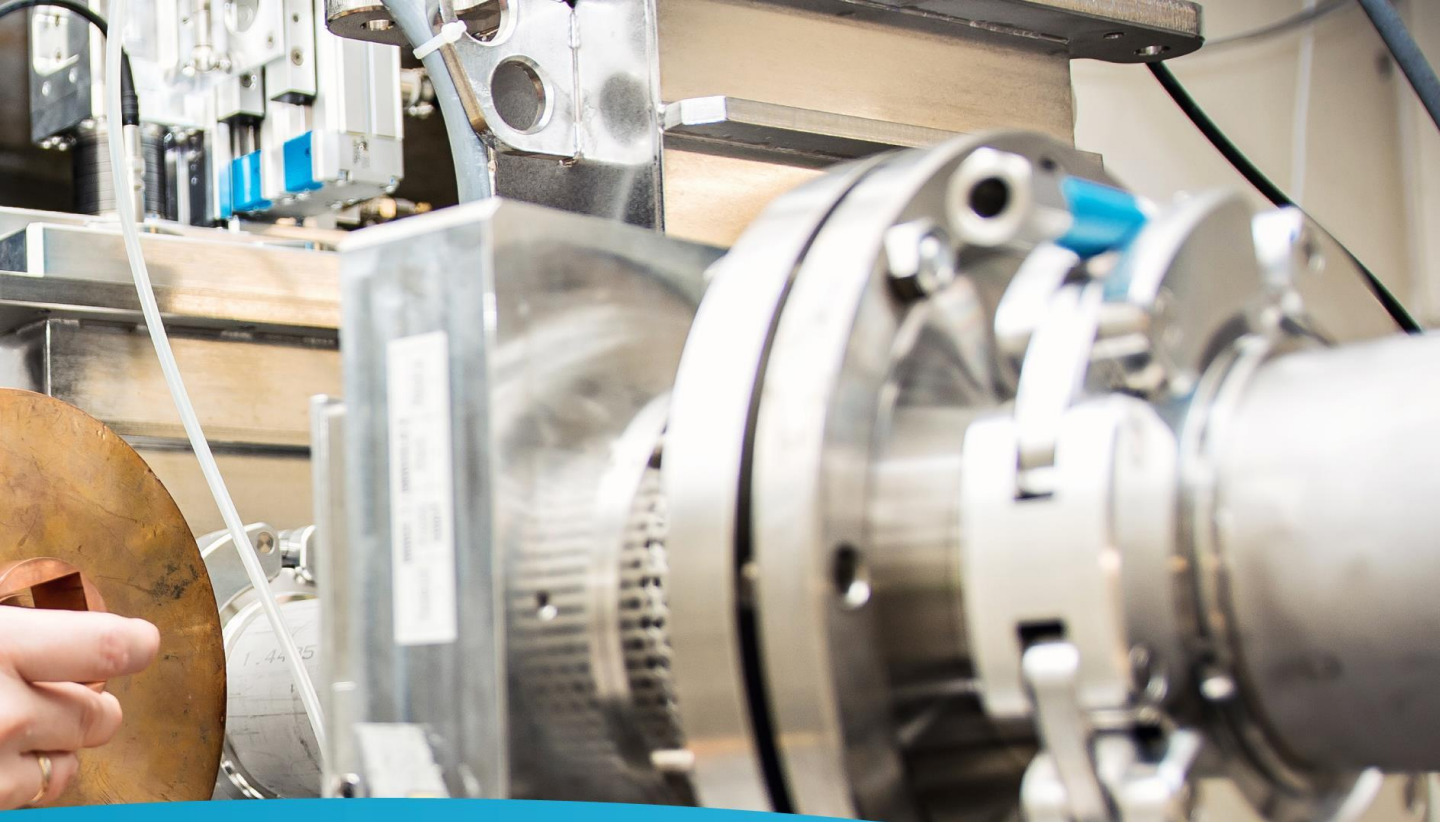
PAUL SCHERRER INSTITUT

a PSI spin off

RADEC is a Swiss company incorporated in 2017 as a spin-off from the Paul Scherrer Institute (PSI). RADEC personnel has many years of experience in space electronic radiation hardness testing using the Proton Irradiation Facility (PIF) and the development of Space Electronics and Detection Systems to its credit.

RADEC provides services related to the preparation of radiation tests such as problem analysis, Monte Carlo simulations, manufacturing of electronics hardware and software that support radiation test campaigns, as well as expert capabilities in the tuning and optimization of required beams such as beam shape, radiation shielding, performing energetic particle flux measurements and optimization operations. In addition, we provide or help with the analysis of collected data, the evaluation of observation-based conclusions and the drafting of recommendations and final reporting.

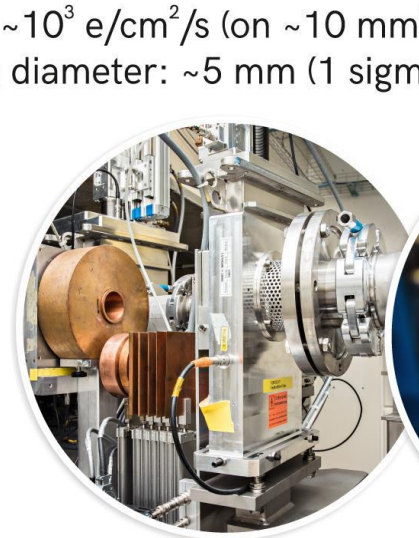
RADEC service includes the following:
· Testing of electronic components within a beam of high energy particles
· Designing electronics to mitigate the effects of radiation
· Consultation concerning testing requirements
· Preparation of samples to be tested,
· Carrying out testing (at PSI or elsewhere),
· Preparation of reports, providing conclusions and recommendations.
And also:
· Calibration of radiation detectors,
· Development of software for data acquisition and data analysis.



Being a spin-off of the Paul Scherrer Institute (PSI) carries the advantage of having a unique opportunity to perform radiation hardness testing at the PSI test facilities.

RADEC offers to our clients the design of dedicated and optimized radiation campaigns using the PSI proton or electron beams. Irradiation at the PSI Proton Irradiation Facility (PIF) closely mimics the Space environment. It allows to simulate a realistic Space proton spectrum at fluxes (intensities) equivalent to the typical duration of a 10 year space mission in just a few hours of testing. RADEC, thanks to the presence of PSI, provides the following:

Protons:
· E: 6-230 MeV (in steps, lower energies are also possible),
· Flux: 10^3 - 10^9 p/cm^2/s (infinitely variable),
· Beam diameter: ~0.2 - ~8 cm (rectangular beams are also possible),
Electrons (high energy):
· p: ~10 - ~115 MeV (monochromatic, infinitely variable),
· Flux: ~10^6 e/cm^2/s
· Beam diameter: ~2-4 cm
Electrons (low energy):
· E: ~0.1 - ~2.5 MeV (monochromatic, infinitely variable; up to 3.5 MeV also),
· Flux: ~10^3 e/cm^2/s (on ~10 mm^2 area),
· Beam diameter: ~5 mm (1 sigma of Gaussian shape).



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