

**Major Unit : code UE HAE917E**

**Radiation and Reliability of Electronics for Transport, Aerospace and Nuclear (3 ECTS)**

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*Learning Outcomes:*

- Know the characteristics of space and avionics radiative environments, important quantities and radiation matter interaction
- Understand and evaluate the different effects of radiation on electronic components and systems.
- Know and understand test methods
- understand future industrial challenges: reliability of electric and autonomous vehicles, newspace, nuclear dismantling, ...

*Description :*

- Spatial and atmospheric radiative environment
- Important quantities,
- Radiation-matter interaction
- Overview of various effects on electronics
  - Single effects
  - Total Ionizing Dose effects
  - Displacement effects

*Literature :*

- « ionizing radiation effects in MOS devices and circuits", T.P. Ma & P.V. Dressendorfer, Ed. Wiley

