

Major Unit : code UE HAE917E

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

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

