The use of synchrotron X-rays to emulate the interaction between heavy ions and electronic devices for next generation space application

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SEE testing using standard heavy ion beams or laser beams is expected to become more and more difficult for complex chips, which present very complex innovating packaging, resulting in buried layers neither traditional cyclotrons nor laser light can access, due to the metallic layers and the thick and complex stacks. In this talk we discuss the possibility to use pulsed hard X-rays to deeply penetrate the complex packaging materials and induce SEE in a buried active area. The physical phenomenon will be introduced, and the potential deployment of this method will be considered.