

Design Against Radiation Effects - ASICs for extremely rad hard & harsh environments (DARE+)

Activity:

Prime contractor: IMEC ~ Presenters: Staf Verhaegen (IMEC) & Kim Sunesen (Recore Systems)

ESA TO: Boris Glass

Abstract:

This activity's objective is to provide a suitable and mixed-signal capable microelectronic technology with a well-established IP library for platform and payload elements of spacecrafts on JUICE and other missions. At the same time the maturity of the existing DARE 180nm platform will be increased and further demonstrated for applications in very harsh radiation environments up to 1 Mrad(Si).

Two test vehicles and an application chip will be designed and tested to reach the goal. The first test chip is to characterize the devices of the technology. The second test chip is to test the library elements. The objective of the Application ASIC is to demonstrate the implementation of basic reconfigurable building blocks for payload processing in DARE180 technology.