

MAGyICs

The MAGylCs research group has competence in developing strong ultra-high total dose radiation tolerant IC's. The group conducts its research within the cooperation of the University of Leuven (KUL) and the Belgium Nuclear Research Centre (SCK-CEN). Since its creation in 2008. university group has delivered many projects for SCK-CEN and ITER.

Expertise:

- Radiation-tolerant electronic solutions for sensor readout systems in harsh environments
- MGy Radiation tolerant time-of-flight measurement systems

Services:

- Irradiation experiment assistance
- Design service and consultancy in radiation-tolerant microelectronics

MAGylCs Designs:

| - | 155 Mb/s VCSEL Driver | 5 MGy |
|---|--------------------------|-------|
| | 255 MHz-BW 90 dBΩ Gain | |
| | Transimpedance Amplifier | 4 MGy |

Time-to-Digital Converter with5.6 ps Resolution5 MGy

130 nm CMOS Bandgap Ref.with a TC of 15 ppm/°C4 MGy

22 nV/√Hz Instrumentation
Amplifier in 130 nm CMOS
1 MGy

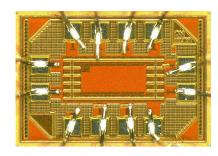
17-bit Delta-Sigma ADC in130 nm CMOS1 MGy

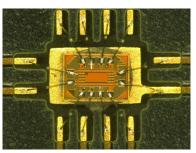
Applications:

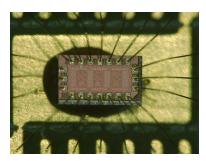
- System remote handling in nuclear reactors
- Nuclear reactor dismantling robotics
- Radiation dosimetry
- Space instrumentation
- Particle detectors



MGy Radiation Tolerant IC's







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