

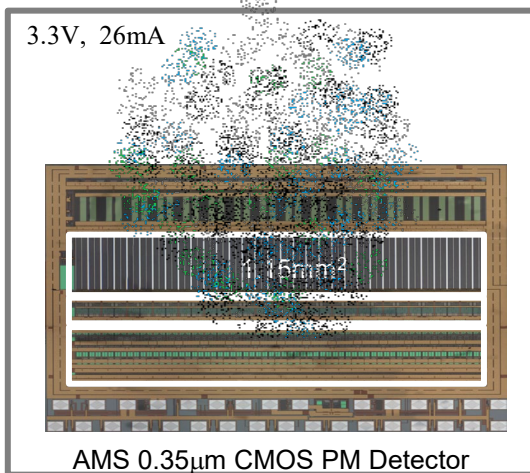
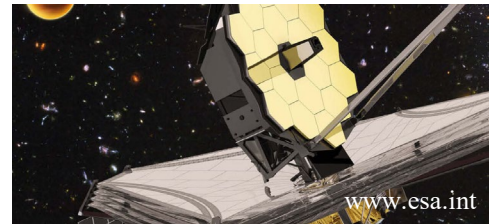


TESI di LAUREA MAGISTRALE

Real-time insitu monitoring of particle deposition with electronic dust counter

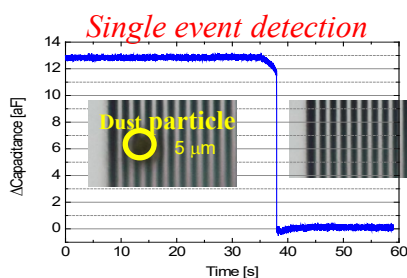
A miniaturized electronic system for real-time monitoring of the amount of dust particles depositing on space payload should be developed for the European Space Agency (ESA).

The project targets space missions requirements of having complete control of the cleanliness level during fabrication of the flight hardware and of the scientific instrumentation (like mirrors or transparent shields), during assembling of the payload and in the launch phase as well as over long missions.



Work aspects and skills that can be acquired:

- Design, fabrication and test of a miniaturized board housing a dedicated chip that performs dust particle detection down to 1µm in diameter
- Realization of a complete firmware for the on-board microcontroller that allows real-time monitoring of the dust counts
- Software to interface the system for remote measurements
- Experimental characterization of the prototype at Politecnico and at ESA site



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