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## QFG transistors radiation damage effects

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Highly integrated and very low power microelectronics, as required by Read Out Chips, represents a challenge because maximum performance and minimum power consumption are opposite design requirements. Quasi Floating Gate transistors are a solution because they allow independent control of transistor static and dynamic operation: AC and DC input terminals are different. The DC input terminal has a big equivalent resistor, implemented as a mos reverse biased diode. Radiation displacement damage in mosfet electronics is not typically an issue because Total Ionization Dose (and Single Event) effects are more relevant due to the shallowness of the active structures in the devices. But body diodes used in the QFG transistors are sensitive to radiation damage. In this work we analyze from first principles the radiation damage sensitivity of QFG transistors, we present experimental results after irradiation with gamma rays and discuss consequences for microelectronic designs.

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