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**Massive semiconductor detectors at very low temperatures for dark matter search :  
CDMS**

CDMS uses Ge (250 g) or Si (100 g) detectors cooled down to very low temperatures ( $<0.04$  K) to detect WIMPs, a very promising candidate for the composition of dark matter in the universe. The simultaneous measurement of ionization (charge) and lattice vibrations (phonons) allows a near-perfect event-by-event discrimination of WIMPs against radioactive background events. With this detection technique, CDMS has set the strongest limits to date on the WIMP-nucleon interaction rate.

After a quick overview of low temperature techniques for particle detection, I will present the CDMS experiment with a focus on the use of superconducting Transition Edge Sensors (TES) for calorimetry.