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Latest results of the direct dark matter search with the EDELWEISS-2 experiment

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EDELWEISS-2 is a Ge-bolometer experiment located in the underground laboratory Laboratoire Souterrain de Modane (LSM, France). For the second phase of the experiment, the collaboration has developed new cryogenic detectors with an improved background rejection (interleaved electrodes design, Phys. Lett. B681 (2009) 305). A continuous operation of ten of these bolometers at LSM together with an active muon veto shielding has been achieved. First results based on an effective exposure of 144 kg \dot d taken in 2009 have been published recently (Phys. Lett. B687 (2010) 29), the acquired data set has since then been doubled. The already published data correspond to an improvement in sensitivity of about 15 compared to EDELWEISS-1. We present and discuss the latest bolometer data including the identification of muon-induced background events and special measurements of muon-induced neutrons in LSM.

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