

Abstract Submitted  
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**Data analysis on XENON100 detector searching for WIMP<sup>1</sup>**  
ALFIO RIZZO, Columbia University, XENON 100 COLLABORATION — The XENON100 detector is a dual-phase xenon time projection chamber (LXeTPC) installed underground at the Laboratori Nazionali del Gran Sasso (Italy) and used to search for dark matter in the form of weakly interacting massive particles (WIMPs) by simultaneously measuring the scintillation and ionization signals produced by nuclear recoils. The 62 kg LXeTPC is instrumented by 178 PMTs and surrounded by a 99 kg Lxe active veto with 64 PMTs. XENON100 has set the most stringent limits on WIMP-nucleon interaction cross section to date, above  $7\text{E-}45\text{cm}^2$  at 90% C.L., and continues to accrue blinded data towards a first robust discovery. We present the analysis techniques developed for the experiment and detail data selection procedures, quality cuts and efficiencies, as well the unblinding procedures for the experiment. Finally the methods for establishing presence of signal or for establishing a limit on interaction cross-section for WIMPs with matter are described.

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Alfio Rizzo  
Columbia University

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