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The COBRA Neutrinoless Double Beta Experiment. QIANG LI, Washington University in St. Louis, COBRA COLLABORATION — The COBRA is a proposed experiment to detect neutrinoless double beta decays of the isotope 116Cd. The COBRA design is based on CZT room temperature solid state detectors. A prototype of the experiment made of 64 1cm^3 detectors is running in the Gran Sasso underground laboratory. In this talk, I will discuss the design of the COBRA prototype experiment and possible designs of a large-scale experiment made of 410 kg of CZT detectors. We are currently evaluating the option to use CZT detector units with 200 micron spatial resolution. Such detectors would make it possible to track the electrons from double beta decays and to distinguish them from certain types of background events.

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