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Backgrounds in WIMP direct detection dark matter experiments

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Over the last 30 years, the progress and sensitivity reach in searching for direct detection of WIMP-like dark matter particle candidates has improved over 10 orders of magnitude in WIMP-nucleon interaction strength. Direct detection dark matter experiments derive their sensitivity from a combination of total target exposure, detector performance and design, and backgrounds present in the search data sets. Experiments have grown in physical size to increase the total target exposure, a multiplicative combination of target mass and duration of exposure time. Experimental ingenuity has resulted in a variety of methods of detection to gain sensitivity to WIMP-like dark matter scattering signatures and suppress confounding background-induced signals. However, backgrounds are insidious to a degree as they are often difficult to fully predict in advance of any step forward in experimental scale and detector design. This presentation will provide a short history of identifying and overcoming backgrounds in the search for direct detection of WIMP-like dark matter. The goal is not to highlight foibles, but instead attempt to gather some grains of wisdom as the community looks toward yet larger and more ambitious future searches.