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The CRESST-III Dark Matter Search: Status and Outlook

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The CRESST experiment (Cryogenic Rare Event Search with Superconducting Thermometers) is searching for nuclear recoils induced by dark matter particles in cryogenic detectors employing different target materials. With their sensitivity to energy depositions of nuclear recoils of less than 100 eV, these detectors are particularly well suited to study low mass dark matter particles. The main objective of the ongoing measurement campaign, which started in summer 2020, is to investigate the origin of an unexplained event population at very low energies (“low energy excess”) which is limiting the sensitivity of the experiment in the low mass region. We report on the status of CRESST-III and show first results from this measurement campaign. Furthermore, our plans for the future including the upgrade of the readout electronics are presented.

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