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The reactor antineutrino anomaly and low energy threshold neutrino experiments

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Short distance reactor antineutrino experiments measure an antineutrino spectrum a few percent lower than expected from theoretical predictions. In this work we study the potential of low energy threshold reactor experiments in the context of a light sterile neutrino signal. We discuss the perspectives of the recently detected coherent elastic neutrino-nucleus scattering in future reactor antineutrino experiments. We find that the expectations to improve the current constraints on the mixing with sterile neutrinos are promising. We also analyse the measurements of antineutrino scattering off electrons from short distance reactor experiments. In this case, despite the statistics is not competitive with inverse beta decay experiments, the restrictions play an important role when we compare it with the Gallium anomaly.

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