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Abstract for an Invited Paper
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Electroweak processes and the three-nucleon potential[1]

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Chiral perturbation theory, an effective low-energy field theory, will be presented. This theory connects two-nucleon weak processes such as the primary solar burning process, $pp \to De^+\nu_e$, the μD capture reaction and the νD breakup reactions, which were used to determine the solar neutrino flux at SNO. The one unknown low-energy-constant (LEC) in these reactions, the two-nucleon axial coupling constant d^R, can be determined by μD capture rate, which presently is being measured to an anticipated 1.5% precision by the MuSun collaboration at PSI. Once d^R is determined, the theory predicts that the other two-nucleon reaction rates will have the same accuracy. We will present how this two-nucleon LEC enters in the $pp \to NN\pi$ reaction and show its link to one of the two LECs in modern three-nucleon potentials. Finally, I will present how the theory allows the evaluation of the radiative corrections to these observables in a natural way.

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