Precision extraction of a_{nn} from $\pi^- d \to nn\gamma$ using χPT[1] ANDERS GÅRDESTIG, University of South Carolina, DANIEL PHILLIPS, Ohio University — We present an updated chiral perturbation theory calculation of the $\pi^- d \to nn\gamma$ reaction. By using other observables to constrain the unknown short-distance physics, we can drastically reduce the theoretical error in the extracted neutron-neutron scattering length. Further consequences of the results will be discussed.

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