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Measuring (anti)neutrino-hydrogen interactions in DUNE ND

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We discuss a practical way to measure (anti)neutrino-hydrogen interactions by subtracting measurements on a dedicated graphite (pure C) target from those on a dedicated polypropylene (CH2) target within a highly segmented detector. Combining the measurements obtained from hydrogen and nuclear targets offers direct measurements/constraints of nuclear effects, which are an important source of systematic uncertainties in DUNE. (Anti)neutrino-hydrogen interactions also allow the determination of (anti)neutrino fluxes with unprecedented precision.

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