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Towards a variational calculation of nucleon elastic structure

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We have implemented and are computing nucleon 3pt functions using the stochastic Laplacian Heaviside (sLapH) method. Such a technique enables the use of momentum space creation and annihilation operators providing access to the Breit-Frame as well as full control of the spin of the initial and final operator. It also enables the use of multi-hadron operators, for example the problematic N-pi excited state. We will report on the success (or lack thereof) of using sLapH for such three point function calculations as measured both in terms of the computational cost, the stochastic signal that is achievable as compared to the more standard fixed source-sink separation computations using local creation operators and momentum space sinks.

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