

Abstract Submitted  
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**Effective Shell-Model interactions for  $^{18}\text{F}$  from the No-Core Shell Model**<sup>1</sup> M.K.G. KRUSE, A.F. LISETSKIY, B.R. BARRETT, University of Arizona, P. NAVRATIL, LLNL, I. STETCU, LANL, J.P. VARY, Iowa State U. — Insight gained from projected No Core Shell Model calculations in the p-shell can now be utilized to obtain information about and to construct effective Shell Model two-body matrix elements (TBMEs) for heavier nuclei. Here we report on a NCSM investigation in  $6\hbar\Omega$  model space for  $^{18}\text{F}$  in order to determine effective TBMEs for the sd-shell. These matrix elements accurately account for the many-body correlations present in the original large space and can be compared to the empirical (or theoretical) TBMEs employed in a traditional core shell-model calculation. Results for other effective operators, specifically electromagnetic, will also be presented.

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