Abstract Submitted
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Studying dynamical polarization in the breakup of ^{17}F[1] J.F. LIANG, J.R. BEENE, A. GALINDO-URIBARRI, C.J. GROSS, P.E. MUELLER, D. SHAPIRA, D.W. STRACENER, R.L. VARNER, Oak Ridge Nat. Lab., H. ESBENSEN, Argonne Nat. Lab., A.L. CARALEY, SUNY at Oswego, K.T. SCHMITT, Univ. of Tennessee — Fluorine-17 is a drip-line nucleus where the proton is bound by 0.6 MeV. It is predicted that the valence proton would be pushed away from the target nucleus and shielded by the ^{16}O core when ^{17}F is incident on a high Z target. This resembles the tail of a comet pointing away from the sun when it flies close to the sun. The phenomenon is caused by a dynamic polarization effect which is of order Z^3. The relative importance of the effect is therefore expected to be smaller on a target of lower Z. We have measured inclusive and exclusive breakup of ^{17}F bombarding ^{58}Ni and ^{208}Pb targets at an energy of 10 MeV per nucleon. The breakup yield of ^{17}F will be compared between the two targets and compared to model calculations to study this dynamic polarization effect.

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