

Abstract Submitted
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Comparison of the (e, e'p) cross sections at low momentum transfer on light nuclei with relativistic calculations TADAAKI TAMAE, Tohoku University, THE (E,E'P) COLLABORATION — The (e, e'p) cross sections have been measured on ^{12}C , ^{16}O and ^{40}Ca at an energy transfer of 60 MeV and low momentum-transfer around 105 MeV/c. The cross sections at missing momenta between 180 and 300 MeV/c obtained from the experiment are compared with theoretical calculations based on the relativistic distorted-wave impulse approximation (RDWIA) with and without meson exchange currents (MEC) made by Pavia group in Italy. The contribution of MEC due to the seagull currents is large in the high missing momentum region for ^{12}C in particular for the longitudinal component, while it is small on ^{16}O and ^{40}Ca . Current-conserving operators (cc1, cc2, cc3) are used in the theoretical calculation. It is known that they give large difference for the (γ , p) reaction, while the difference is small for the quasi-elastic (e, e'p) reaction. Influence to the choice of the current operator is medium in the (e, e'p) reaction at low momentum transfer, but still large. The calculations overestimate the experimental cross sections by a factor of two in the low missing momentum region for all three nuclei. It indicates that some important ingredients are missing in the theoretical calculation.

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