

Abstract Submitted  
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**Recent results on in-medium properties of the omega meson<sup>1</sup>**

VOLKER METAG, II. Physikalisches Institut, Univ. Giessen, CBELSA/TAPS COLLABORATION — Data on the photo production of  $\omega$  mesons on nuclei have been re-analyzed. For incident photon energies of 900 – 2200 MeV,  $\omega$  mesons have been identified via the  $\pi^0\gamma$  channel using the CBELSA/TAPS detector. A new procedure has been developed which allows a model-independent background determination in shape and absolute magnitude directly from the data. Applying this method, an earlier claim of an in-medium lowering of the  $\omega$  mass [1] can not be confirmed. Because of the strong in-medium broadening of the  $\omega$  meson, deduced from a transparency ratio measurement [2], the fraction of in-medium  $\omega \rightarrow \pi^0\gamma$  decays is correspondingly reduced and the experiment becomes less sensitive to in-medium mass shifts. A higher sensitivity is expected for incident energies close to the production threshold [3]. A measurement at incident photon energies of 800-1400 MeV has been performed. Results of this experiment, including an analysis of the  $\omega$  excitation function, will be presented

[1] D. Trnka et al., PRL 94 (2005)192303.

[2] M. Kotulla et al., PRL 100 (2008) 192302.

[3] K. Gallmeister et al., Prog. Part. Nucl. Phys. 61 (2008) 283.

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