Contribution ID: **20** Type: **not specified**

Determining the meson-nucleus potential - on the way to mesic states

Thursday, 18 September 2014 16:00 (30 minutes)

Experimental approaches to determine the real and imaginary part of the meson-nucleus potential will be described. The experiments have been performed with the Crystal Barrel/TAPS detector at the electron accelerator ELSA (Bonn) and the Crystal Ball/TAPS detector at MAMI (Mainz). Measuring the transparency ratio as well as the excitation function and momentum distribution for photo production of ω- and η'- mesons, we find that for the η'-meson the imaginary part of the potential is smaller than the real part. In case of the ω-meson we observe the opposite. This makes the etaprime meson a good candidate for the search for meson-nucleus bound states while no resolved ω-mesic states can be expected. The results are discussed and compared to theoretical predictions. An outlook on future experiments is given.

Primary author: METAG, Volker (II. Physikalisches Institut, Univ. Giessen)

Presenter: METAG, Volker (II. Physikalisches Institut, Univ. Giessen)