# Search for medium effects on light vector mesons

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Theoretical calculation predict that masses and coupling constants of the Quantum Chromodynamic Lagrangian in dense or hot matter change according to the symmetry constraints of QCD, while the Lagrangian remains intact. This properties of vector mesons such as their masses and widths will change in dense or hot matter. These modifications are related to partial restoration of chiral symmetry at high density or temperature. An experiment was performed using the CEBAF Large Acceptance Spectrometer (CLAS) at Jefferson Lab using a tagged photon beam of energies up to 4 GeV on various nuclear targets. The interaction occurs approximately uniformly through the nuclear medium. The properties of the light vector mesons, $\rho$, $\omega$ and $\Phi$, are investigated through their rare leptonic decay to $e^+e^-$. This decay channel is prefered over the hadronic modes in order to eliminate the final state interactions in the nuclear matter. Preliminary results will be shown and discussed.

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