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Studying the Delta-Delta component in the Deuteron[1] SHANKAR ADHIKARI, MISAK SARGSIAN, Florida International University, Miami, FL — The Delta-Delta component is expected to be one of the largest non-nucleonic components in the high momenta part of the deuteron wave function. It's magnitude will reveal indirectly the extend of the hidden-color in the deuteron as well as the dynamics relevant to the repulsive core of the NN interaction. To describe this component we developed a theoretical model based on the light-cone perturbation theory in which the Delta-Delta state is due to highly virtual NN-¿ Delta Delta transition in the intermediate state. Calculation is based on the collinear approximation in which the initial NN state is described by light-cone pn deuteron wave function and the NN-¿ Delta Delta transition amplitude is parameterized from the experiment with off-shell extrapolation. The model allowed us to calculate the total normalization of the Delta-Delta component as well as predict its momentum distribution. We then demonstrate how this component can be probed in deep-inelastic scattering off the deuteron tagged by fast backward Deltas or in high momentum transfer exclusive reactions that can identify two Delta Isobars in the final state.

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