Moments of Generalized Tensor Parton Distributions

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Abstract: Generalized Parton Distributions (GPDs) combine in an optimal manner most of the information one can obtain from experiments on the internal structure of hadrons. Some of them, namely the tensor GPDs, contain even information which can hardly be obtained experimentally. However, this information is especially interesting for phenomenology, it describes e.g. the sideways shift of parton distributions in a transversely polarized nucleon. Lattice calculations seem to offer the only possibility to access this information. The physical meaning of tensor GPDs is discussed and results for the lowest three Mellin-moments of the isovector tensor GPDs obtained by the QCDSF collaboration are presented. These calculations used dynamical ($N_F = 2$) improved Wilson fermions.