Hard exclusive wide-angle processes

P. Kroll *(Universität Wuppertal)*

The factorization properties of the handbag approach to hard wide-angle processes, as for instance two-photon annihilation into pairs of pseudoscalar mesons or baryon-antibaryon pairs, will be discussed. The processes factorize in hard subprocesses, e.g. $\gamma\gamma \to q\bar{q}$ and soft $q\bar{q}$ transitions to the hadron pairs. It is shown that the latter transitions appear as form factors which represent second moments of 2-hadron distribution amplitudes (i.e. time-like generalized parton distributions). As an application it will be reported on an analysis of recent BELLE data on two-photon annihilations into pairs of pseudoscalar mesons. With the help of SU(3) flavor symmetry combined with the absence of isospin-2 states in the handbag approach one can show that there are only two independent form factors, one for valence and one for non-valence quarks, which represent the soft physics information for the six pseudoscalar meson channels. This handbag approach describes well all BELLE data for energies larger than 3 GeV. Comparison with other approaches and the application of the handbag approach to other wide-angle processes, as for instance two-photon annihilation into baryon-antibaryon pairs, will also be briefly discussed. The talk is based on Refs. [1, 2].

References

[1] M. Diehl, P. Kroll and C. Vogt, Phys. Lett. B**352**, 99 (2002).

[2] M. Diehl and P. Kroll, Phys. Lett. B**683**, 165 (2010).