

Institut Ruđer Bošković
ZAVOD ZA TEORIJSKU FIZIKU
Bijenička c. 54
ZAGREB, HRVATSKA

SEMINAR ZAVODA ZA TEORIJSKU FIZIKU

(Zajednički seminari Zavoda za teorijsku fiziku,
Zavoda za eksperimentalnu fiziku IRB-a i Fizičkog odsjeka PMF-a)

Twist-3 contributions to hard exclusive processes

Peter Kroll

Fachbereich Physik, Universitat Wuppertal, D-42097 Wuppertal, Germany

Datum: utorak, 23. siječnja 2018.

Vrijeme : **14 sati c.t.**

Mjesto: IRB, predavaona I krila

Abstract:

After a brief introduction in the handbag physics for hard exclusive processes and generalized parton distribution (GPDs) I am going to talk on deeply virtual electroproduction and wide-angle photoproduction of pions. I will however begin with wide-angle Compton scattering as the gold-plated process: parameter-free predictions for observables are found to be in fair agreement with experiment. On the other, the same handbag mechanism fails badly for wide-angle photoproduction of pions if the calculation is done to same (twist-2) accuracy as Compton scattering. An attempt to improve the results by the inclusion of transversity GPDs which go along with the twist-3 pion distribution amplitudes fails in the Wandzura-Wilczek approximation as well. For electroproduction of uncharged pions, on the other hand, this twist-3 mechanism dominates and is in agreement with experiment. As the last topic of my talk I take up wide-angle pion photoproduction again and will show that the full twist-3 contribution, i.e. both its 2- and 3-particle part, improves the theoretical results considerably.

Voditelj seminara:
Andjelo Samsarov
(asamsarov@irb.hr)