

Hadron interactions, colour and QCD partons

2013 Joliot - Curie School

Yuri Dokshitzer

LPTHE

Paris

I will overview the perturbative QCD approach to "hard" hadron interactions at high energies.

Special emphasis will be given to the nature of asymptotic freedom, emergence of the probabilistic parton picture and parton evolution equations, internal symmetries of parton dynamics and classical aspects of gluon radiation.

Also we will touch upon more subtle topics such as probing non-perturbative phenomena with perturbative tools, certain aspects of propagation of energetic quarks and gluons in QCD media, an intriguing interplay between QCD and its super-symmetric partner theories.