

QCD and Hadron Physics

All problems studied at HERA and LEP will be studied there but in much more wide interval of parameters and with much better accuracy. I note those which look most interesting now.

- Nature of growth of **total cross sections**. The widespread concepts assume standard Regge type factorization and universal energy behavior for different processes. With Photon Colliders, **for the first time in particle physics**, one can have the set of mass shell cross sections of very high energy processes, appropriate for the testing of factorization or level of its violation. That are σ_{pp} , measured at Tevatron and LHC, $\sigma_{\gamma\gamma}$, measured at HERA, THERA, $\sigma_{\gamma p}$, measurable at Photon Collider. For this goal **the preliminary stage of operations with low luminosity can be used** to observe large enough cross sections at small scattering angles.

- The study of **charge asymmetry of produced hadrons** in $\gamma\gamma$ collisions will give quite new information about quark–gluon matter at small distances. The charge asymmetry of the produced hadrons in the γe collisions with transverse momentum of scattered electron $p_{\perp} \geq 30$ GeV will show in explicit form the relation between hadron states produced by vector and axial current.