

10-th Workshop on “Continuous Advances in QCD” 2013

The workshop traditionally attracts the experts in the theory of Quantum Chromodynamics and in the theory of dynamics in general gauge theories with and without supersymmetry, and also in the theoretical description of specific processes and of specific particles. The workshop has given to its more than 50 participants ample opportunities to exchange the current results and new ideas. The continuing development of the understanding the confinement and generally the properties of the vacuum and low-energy degrees of freedom in non-Abelian gauge theories was presented at the meeting in the talks by Konishi, Hanany, Gorsky, Yung, Nekrasov, Koroteev, Shuryak, Nishimura, Shifman and others. The progress in the analytical multi-loop calculations in the theory of gravity and in Yang-Mills theories was reported by Zvi Bern, who described the new understanding of remarkable cancellations in terms of a new symmetry between the kinematical and group variables. The recent revival of the interest to the structure of divergence of the perturbation expansion in field theories and its relation to the nonperturbative terms was described by Unsal and Dunne. The behavior of the amplitudes in QCD-like models in the limit of large number of colors was discussed in the talks by Cohen and Lebed. The theoretical description of strongly interacting matter at large density was the subject of the reports by Ogilvie and Shovkovy. The work on phenomenological properties of hadrons in the strong, weak and electromagnetic processes was presented by Braun, Khodjamirian, Radyushkin and others. The calculations related to searches of physics beyond the Standard Model were reported by Czarnecki, Mannel and Pospelov.