EXPERIMENTAL PHYSICS DIVISION SEMINAR

INSTITUTE OF HIGH ENERGY PHYSICS, CAS

Physics with Multiple Heavy Quarks

Speaker: Dr. Vanya Belyaev (ITEP NRC)

Time: 15:00 Friday 24th Feb 2023

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Abstract:

The production cross-section of heavy quarks in high-energy hadron collisions at the Large Hadron Collider (LHC) is so large that it opens possibility to study the processes with multiple production of heavy quarks. Those include both processes, where the multiple heavy quarks are produced via a single parton-parton interaction, as well as processes where the pairs of heavy quarks are produced via multiple independent parton interactions. Both kinds of processes are intensively studied by LHCb in proton-proton collisions at the centre-of-mass energies of 7, 8 and 13 TeV. The summary of the results on the production of multiple charm and beauty quarks (including physics with B_c^+, Ξ_{cc}^{++} and T_{cc}^+ particles) will be reported.

About the speaker:

Ivan (Vanya) Belyaev worked in ARGUS and HERA-B (DESY, Hamburg, Germany), Belle (KEK, Tsukuba, Japan) and LHCb (CERN, Geneva, Switzerland) collaborations. Scientific interests include the decays of charm and beauty particles, production of heavy quarks in high-energy hadron interactions, spectroscopy of conventional and exotic hadrons, including the precise measurements of the hadron properties.