

XI WORKSHOP ON HIGH ENERGY SPIN PHYSICS

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LOBACHEVSKY ABSOLUTE EIGEN SPIN ALIGNMENT AND HELICITY AND SPIN ASPECTS OF THE FUNDAMENTAL INVERSE SCATTERING PROBLEM

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Talk Plan

Fundamental inverse scattering problem (FISP)

- Phys.-Math. grounds – the synthesis of:
 1. Known Lobachevsky velocity space (LVS) method.
 2. Multidimensional statistics (MDS) of primary experimental data.
 3. Notions and results for a theory of dynamic systems (TDS).
 4. Group-theoretical structuration of multiparticle experimental data.
- FIPS – the main problem of XXI century high energy particle physics (HEPP).

- Group-theoretical analysis of eigen spin alignment axis for light vector mesons in the Lobachevsky velocity space by.
 1. Visual tools: a) Beltrami-Einstein and Klein-Wick Euclidean mappings (plane maps) of the "Axial (production) plane" in LVS.
 2. Fitting results of "rotation angle's" and density matrix eigen values' t -dependence.
 3. Modern group-theoretical and physical interpretation of these results.
 - as governing parameters of the 3rd level for meson excitation in strong interaction dynamics.

- Two-, three-, four- and multi-body "production kinematics" at some, tens, hundreds GeV and multi-TeV energy regions.
 1. "Poincaré imaginary statistical bodies" in LVS for excited physical bodies, produced in strong interaction reactions in the hole available energy region.
 2. Significance of their reconstruction for solving 1st FISP.
 3. Leading role of excited hadrons' eigen Spin Features in reconstruction of PISB-s for any intermediate excited physical bodies and in solv'd FISP in the hole.

- Conclusions.

Multiparticle reactions' spin physics must become an essential ones for FISP solving in a hole, which had to transform naturally XXI century HEPP into purely "Spin HEPP" for achievement the FISP final aim – revealing of internal hadron space-time structure and of strong interreaction laws.