

Friday, December 11th (at 3.00pm, UK time)

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Title: *Multi-particle Painlevé systems: Painlevé-Calogero and Painlevé-Ruijsenaars systems*

ABSTRACT

The extension of the Painlevé-Calogero correspondence for n-particle Inozemtsev systems raises to the multi-particle generalisations of the Painlevé equations. Such multi-particle systems may be obtained by the procedure of Hamiltonian reduction applied to the matrix or non-commutative Painlevé systems. This procedure also gives the isomonodromic formulation for these non-autonomous Hamiltonian systems. The procedure of obtaining such systems allows to consider dual systems in a spirit of the Ruijsenaars duality.

In my talk I will review the Ruijsenaars duality for rational and trigonometric Calogero systems and basic facts from the theory of the Painlevé equations and Painlevé-Calogero correspondence. I will show how to obtain the multi-particle Painlevé-Calogero systems using the reduction procedure and then discuss what kind of duality arises for the rational Painlevé-Calogero systems as well as for some trigonometric ones which lead to the Painlevé-Ruijsenaars systems.
