

Friday, October 27th (at 4.00pm, UK time)

Jules Lamers (Saclay)

Title: The elliptic quantum spin-Ruijsenaars system(s).

ABSTRACT

I will present a new integrable generalisation of the elliptic quantum Ruijsenaars system, where the particles have spins. Our model unifies the trigonometric spin-Ruijsenaars-Macdonald system (connected to affine Hecke algebras and Schur--Weyl dualities) and the elliptic spin-Calogero-Sutherland system.

I will introduce its ingredients (in particular dynamical R-matrices associated to Felder's elliptic quantum group), discuss its limits - some of which appear to be new - and compare our model to recent work of Matushko and Zotov.

Time allowing, I will discuss an application: a new integrable quantum spin chain with long-range interactions that unifies the (q -deformed and ordinary) Haldane-Shastry spin chain, the Inozemtsev spin chain, as well as a twisted Heisenberg XXZ spin chain that is connected to the affine Temperley-Lieb algebra and, to the best of our knowledge, is new as well.

Based on arXiv:2306.13066 and work in progress, joint with R. Klabbers.
