

# The tetrahedric angular Calogero model

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The spherical reduction of the rational Calogero model (of type  $A_{n-1}$  and after removing the center of mass) is considered as a maximally superintegrable quantum system, which describes a particle on the  $(n-2)$ -sphere subject to a very particular potential. We present a detailed analysis of the simplest non-separable case,  $n=4$ , whose potential is singular at the edges of a spherical tetrahedron. A complete set of independent conserved charges and of Hamiltonian intertwiners is constructed, and their algebra is elucidated. They arise from the ring of polynomials in Dunkl-deformed angular momenta, by classifying the subspaces invariant and antiinvariant under all Weyl reflections, respectively.