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Title: The Shapiro-Shapiro Conjecture and Calogero-Moser space.

Abstract: The Shapiro-Shapiro conjecture states that if  $p_1, \dots, p_n$  are linearly independent complex polynomials in one variable, then their wronskian has real roots implies that  $\text{Span}(p_1, \dots, p_n)$  has a basis within the real polynomials. Mukhin, Tarasov and Varchenko confirmed this conjecture in 2005 using the Gaudin Model. I will explain a new proof of the conjecture which uses real Calogero-Moser phase space and a result on the reality of irreducible representations of rational Cherednik algebras. (This is joint work with E.Horozov and M.Yakimov)