
KEVIN PURBHOO, University of Waterloo
A new proof of the Shapiro-Shapiro conjecture

In the mid-1990's Boris and Michael Shapiro formulated a remarkable conjecture about real solutions to Schubert problems. It was finally settled in 2005 by Mukhin, Tarasov and Varchenko using machinery from quantum integrable systems. Since then, many applications and generalizations have been found; however, because the MTV proof is fundamentally non-geometric, most of these treat the theorem as a black box. I will talk about a new result, which is simultaneously a generalization of the Shapiro-Shapiro conjecture, and naturally lends itself to a geometric proof. This is joint work with Jake Levinson.