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**Susan Margulies\***, margulie@usna.edu, and **Angelika Wiegele, Elisabeth Gaar** and **Daniel Krenn**. *Hilbert's Nullstellensatz, the Positivstellensatz and Vizing's Conjecture*. Preliminary report.

Vizing's conjecture (open since 1968) states that the product of the domination numbers is less than or equal to the domination number of the product graph. In this talk, we report on progress modeling this conjecture as a system of polynomial equations, and then computing via both linear algebra and Hilbert's Nullstellensatz and semi-definite programming and the Positivstellensatz. (Received September 24, 2018)