

1018-05-160

Edwin O'Shea* (oshea@math.washington.edu), University of Washington, Dept. of Mathematics, Box 354350, Seattle, WA 98195-4350, and **András Sebő**. *Detecting total dual integrality and perfect graphs.*

We will present experimentally feasible tools for detecting total dual integrality by studying secondary fans and Gröbner bases of toric ideals. Fitting within this framework is a new, Gröbner basis proof of the weak perfect graph theorem for chordal graphs. More generally, it fits in well with previous work of Chandrasekaran & Tamir and Sebő to give an explicit polyhedral strengthening of the weak perfect graph theorem. (Received March 04, 2006)