Pedestals: Polynomial matrices with polynomial eigenvalues

Senya Shlosman

Abstract. A construction will be presented that maps each poset X to a square matrix M^X. Its matrix elements are enumerated by pairs of linear orders P, Q on X, and are monomials of variables x_i. Our main result is that the eigenvalues of M^X are polynomials in x_i with integer coefficients.

In collaboration with Richard Kenyon, Maxim Kontsevich, Oleg Ogievetsky, Cosmin Pohoata and Will Sawin.

Senya Shlosman
Skoltech, Moscow, Russia
e-mail: shlosman@gmail.com