1132-05-70 **Arthur L.B. Yang*** (yang@nankai.edu.cn), Center for Combinatorics, Nankai University, Tianjin, 300071, Peoples Rep of China. *The Kazhdan-Lusztig polynomial of a fan matroid.* Preliminary report.

Elias, Proudfoot and Wakefield associated to every matroid a polynomial with integer coefficients, in analogy with the classical Kazhdan-Lusztig polynomials in representation theory. They conjectured that the Kazhdan-Lusztig polynomial of a matroid has only non-negative coefficients, and its coefficients form a log-concave sequence with no internal zeros. Gedeon, Proudfoot and Young further conjectured that the Kazhdan-Lusztig polynomial of a matroid has only non-positive real zeros. For some specific families of matroids, the Kazhdan-Lusztig polynomials have been determined recently. We explicitly computed the Kazhdan-Lusztig polynomial of a fan matroid, as well as that of a wheel matroid, giving two examples to support their conjectures. This is a joint work with Linyuan Lu and Matthew Xie. (Received July 11, 2017)