1083-52-128 **June Huh*** (junehuh@umich.edu), 512 Walnut St. #11, Ann Arbor, MI 48104. *h-Vectors of matroids and logarithmic concavity.*

Let M be a matroid on E, representable over a field of characteristic zero. We show that h-vectors of the following simplicial complexes are log-concave:

1. The matroid complex of independent subsets of E.

2. The broken circuit complex of M relative to an ordering of E.

The first implies a conjecture of Colbourn on the reliability polynomial of a graph, and the second implies a conjecture of Hoggar on the chromatic polynomial of a graph. The proof is based on the geometric formula for the characteristic polynomial of Denham, Garrousian, and Schulze. (Received August 24, 2012)