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Andrew D. Frohmader* (adf2@u.washington.edu), Department of Mathematics, University of Washington, Seattle, WA 98195-4350. *Face vectors of flag complexes.*

The face vector of a simplicial complex lists its number of faces of all possible dimensions. It then makes sense to ask which integer vectors can arise as face vectors of simplicial complexes, or of particular types of simplicial complexes. Much work has been done in this area, such as the Kruskal-Katona theorem which characterizes the face vectors of all simplicial complexes. A flag complex is a simplicial complex for which every minimal non-face is a two element set, or equivalently, a simplicial complex whose faces are precisely the cliques of some graph. The problem of characterizing the face vectors of flag complexes remains open, but we give some bounds including our recent proof of a conjecture of Eckhoff and Kalai. (Received August 06, 2007)