

1086-05-1201

**Jonathan Browder\*** ([jonathan.browder@aalto.fi](mailto:jonathan.browder@aalto.fi)), Aalto University, Department of Mathematics, P.O. Box 11100, FI-00076 Aalto, Finland. *Face numbers of Buchsbaum simplicial posets*. Preliminary report.

A (finite) poset  $P$  is simplicial if it has unique minimal element  $\hat{0}$  and the property that for every  $p \in P$ , the interval  $[\hat{0}, p]$  is a Boolean algebra. A simplicial poset is Buchsbaum if its order complex is Buchsbaum as a simplicial complex (as occurs, for example, when  $P$  is the face poset of a simplicial cell decomposition of a manifold). Novik and Swartz gave a set of necessary conditions on the face vectors of Buchsbaum simplicial posets in terms of their Betti numbers, and conjectured that these conditions are also sufficient, and thus provide a complete characterization. In this talk we will present some partial progress towards this characterization, and discuss some crystallization techniques that may be of use. (Received September 20, 2012)