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Steven Klee*, Mathematical Sciences Building, One Shields Ave., University of California, Davis, CA 95616, and **Benjamin Braun** and **Jonathan Browder**. *Cointerval Simplicial Complexes and Ordered Hom Complexes*. Preliminary report.

We introduce the class of cointerval simplicial complexes, which generalize the classes of cointerval hypergraphs, introduced by Dochterman and Engström, and shifted simplicial complexes, introduced by Erdős-Ko-Rado (combinatorial shifting) and Kalai (algebraic shifting). We will discuss some geometric properties of cointerval complexes, and introduce a (polyhedral) complex of order-preserving homomorphisms, $OHOM(\Gamma, \Delta)$, between simplicial complexes Γ and Δ . We will show that the complex $OHOM(\Gamma, \Delta)$ supports a minimal free resolution of an associated monomial ideal when Δ is a cointerval simplicial complex. (Received September 13, 2010)