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Federico Castillo*, Inselstraße 22 04103, Leipzig, Germany, and **Jeremy Martin** and **Jose Samper**. *Hopf monoids of ordered simplicial complexes*.

We study a class of simplicial complexes over an ordered set defined by the property that the restriction to every initial segment is pure. This class contains ordered matroids, shifted complexes, broken circuit complexes, and many more. We show that this class gives rise to a Hopf Monoid and compute its antipode in some particular cases. This is joint work with Jeremy Martin and Jose Samper. (Received August 03, 2020)