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Elisabeth Bullock, Aidan Kelley and Victor Reiner* (reiner@umn.edu), School of Mathematics, University of Minnesota, Minneapolis, MN 55455, and **Kevin Ren, Gahl Shemy, Dawei Shen, Brian Sun, Amy Tao and Joy Zhang.** *Topology of augmented Bergman complexes.*

The augmented Bergman complex of a matroid is a simplicial complex introduced recently in work of Braden, Huh, Matherne, Proudfoot and Wang. It may be viewed as a hybrid of two well-studied pure shellable simplicial complexes associated to matroids: the independent set complex and Bergman complex.

After recalling the relevance of the augmented Bergman complex in the previous work, we show that it is shellable, via two different families of shelling orders. Both shellings determine the homotopy type, and comparing the two answers re-interprets a known convolution formula counting bases of the matroid. One of the shellings leads to a surprisingly simple description for how symmetries of the matroid act on the homology of the complex.. (Received September 10, 2021)