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**Eric L. Grinberg\*** ([eric.grinberg@umb.edu](mailto:eric.grinberg@umb.edu)), University of Massachusetts Boston, 100 Morrissey Blvd, Boston, MA 02125. *Sets of Admissibility for Radon Transforms over Finite Fields in Higher Dimensions*. Preliminary report.

We consider finite or combinatorial analogs of Radon transforms that occur in analysis and in small models of tomography. In many familiar contexts these transforms are injective and over-determined. We study admissible sets, i.e., minimal restrictions that retain admissibility, by analogy with the continuous versions introduced by I.M. Gelfand in the 1950s. We explore the structures of such *admissible complexes*, both for their geometry and their graph-theoretic and enumerative properties. Both vector and projective contexts are included. The emphasis is on dimensions higher than those previously explored. (Received January 28, 2020)