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Homotopy Types of Combinatorial Grassmannians

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A rank n oriented matroid M can be thought of as a combinatorial model for $\mathbf{R}^n$. There is a natural notion of a "subspace" of M, leading to combinatorial Grassmannians G(r, M) and flag spaces $F(r_1 < \cdots < r_k, M)$ associated to M. Do these spaces have the same homotopy types as their topological counterparts? In some cases the answer is known to be Yes, in a few cases the answer is known to be No, and in most cases the situation is shrouded in mystery. I'll survey the known results and outline Eric Babson's fabled proof that $G(2, M) \simeq G(2, \mathbf{R}^n)$ and that $F(1, 2, M) \simeq F(1, 2, \mathbf{R}^n)$.

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