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Walter D Morris* (wmorris@gmu.edu), Department of Mathematical Sciences, MS 3F2, Fairfax, VA 22030. *Oriented matroids and intersection of simplices generated by a family of segments*. Preliminary report.

Let $\mathcal{S} = \{S_1, S_2, \dots, S_d\}$ be a collection of segments in R^{d-1} . \mathcal{S} has property P if every set of points $\{x_1, x_2, \dots, x_d\}$, with $x_i \in S_i$ for all $i = 1, 2, \dots, d$, is affinely independent. If, in addition, there is a point $p \in R^d$ so that $p \in \text{int}(\text{conv}\{x_1, x_2, \dots, x_d\})$ whenever $x_i \in S_i$ for all $i \in \{1, 2, \dots, d\}$, then \mathcal{S} is said to have property K. We give some sufficient conditions for an oriented matroid analog of property K to hold. (Received September 12, 2010)