



## Why

The set of positive semidefinite matrices has an attractive geometric structure.

## Main Result

**Proposition 1.**  $\mathbf{S}_+^d$  is a convex, pointed, closed cone with interior  $\mathbf{S}_{++}^d$  relative to  $\mathbf{S}^d$ .<sup>1</sup>

The cone of positive definite matrices is open.

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<sup>1</sup>Future editions will contain a proof, which is by first principles.



