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Renato G. Bettiol* (r.bettiol@lehman.cuny.edu), **Mario Kummer** and **Ricardo A. E. Mendes**. *Pinched 4-manifolds*.

We obtain new topological restrictions on (positively or negatively) pinched 4-manifolds, using techniques from convex algebraic geometry and optimization theory. In particular, we prove that a closed simply-connected δ -pinched 4-manifold, with $\delta \geq \frac{1}{1+3\sqrt{3}} \cong 0.161\dots$, is homeomorphic to S^4 or CP^2 , and provide upper bounds on the Euler characteristic and signature of δ -pinched 4-manifolds for any value of $\delta > 0$. (Received January 18, 2021)