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Valeriu Soltan* (vsoltan@gmu.edu), 4400 University Drive, Fairfax, VA 22030. *Characteristic properties of convex quadric surfaces*. Preliminary report.

We prove that the boundary of an n -dimensional closed convex set $B \subset \mathbb{R}^n$, possibly unbounded, is a convex quadric surface if and only if the middle points of every family of parallel chords of B lie in a hyperplane. An auxiliary result states that the boundary of B is a convex quadric surface if and only if there is a point $p \in \text{int } B$ such that all sections of $\text{bd } B$ by 2-dimensional planes through p are convex quadric curves. Generalizations of these statements that involve boundedly polyhedral sets are given. (Received January 18, 2007)