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Anton R. Schep* (schep@math.sc.edu), Dept. of Mathematics, Univ. of South Carolina, Columbia, SC 29208. *Products of weak log convex operators are weak log convex.* Preliminary report.

Let $I \subset \mathbb{R}$ be an interval and let $\{A(t) : t \in I\}$ be a collection of positive linear operators on a Banach lattice E . Then $A(t)$ is called weak log convex, if the function $t \mapsto \langle A(t)x, x^* \rangle$ is log convex for all $0 \leq x \in E$ and all $0 \leq x^* \in E^*$. It will be shown that the operator product of two weak log convex operator families is again weak log convex. This result shows that Kato was wrong with his claim that this result was very likely not true. As a consequence one can derive a version of Kingman's theorem about the log convexity of the spectral radius for weak log convex operator families. (Received February 20, 2006)