1125-34-2075 **Jeffrey Thomas Neugebauer*** (`jeffrey.neugebauer@eku.edu`), 521 Lancaster Ave, 313 Wallace Building, Richmond, KY 40475. *Extremal points for a fractional boundary value problem with a fractional boundary condition.*

The theory of u_0-positive operators with respect to a cone in a Banach space is applied to study the boundary value problem for Riemann-Liouville fractional linear differential equation $D_{0+}^\alpha u + p(t)u = 0$, $0 < t < b$, satisfying boundary conditions $u^{(i)}(0) = 0$, $i = 0, 1, \ldots, n-2$, $D_{0+}^\beta u(1) = 0$, $b > 0$, $n - 1 < \alpha \leq n$, $0 \leq \beta \leq n - 1$. The first extremal point, or conjugate point, of the conjugate boundary value problem is defined and criteria are established to characterize the conjugate point. (Received September 19, 2016)

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