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Positive solutions of functional-differential systems via the vector version of Krasnoselskii's fixed point theorem in cones

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ABSTRACT.

We study the existence of positive solutions of the functional-differential system

$$\begin{cases} u_1''(t) + a_1(t) f_1(u_1(g(t)), u_2(g(t))) = 0, \\ u_2''(t) + a_2(t) f_2(u_1(g(t)), u_2(g(t))) = 0 \end{cases}$$

$(0 < t < 1)$, subject to linear boundary conditions. We prove the existence of at least one positive solution by using the vector version of Krasnoselskii's fixed point theorem in cones.

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