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THE BASIS PROPERTIES IN THE SPACE  $L_2$  OF  
THE SYSTEMS OF ROOT FUNCTIONS ON A  
FOURTH ORDER SPECTRAL PROBLEM

Abstract

*In this paper the fourth order spectral problem with spectral parameter in the boundary condition is considered. This problem is interpreted as a problem on eigenvalues of some  $J$ -self-adjointed operator in Pontragin's space  $\Pi_1$ . The necessary and sufficient conditions of Riesz basicity in the space  $L_2$  of the root functions system of considered problem are proved.*