

# On the Basis Property of the Root Functions of Differential Operators with Matrix Coefficients

Veliev O. A.

*(Dogus University)*

oveliev@dogus.edu.tr

We obtain asymptotic formulas for eigenvalues and eigenfunctions of the operator generated by a system of ordinary differential equations with summable coefficients and periodic or antiperiodic boundary conditions. Then using these asymptotic formulas, we find necessary and sufficient conditions on the coefficients for which the system of eigenfunctions and associated functions of the operator under consideration forms a Riesz basis.