

p -HYPERBOLIC ZOLOTAREV FUNCTIONS IN BOUNDARY VALUE PROBLEMS FOR A p TH ORDER
DIFFERENTIAL OPERATOR

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For the self-adjoint operator of the p th derivative, a system of fundamental solutions is constructed. This system is analogous to the classical system of sines and cosines. The properties of such functions are studied. Classes of self-adjoint boundary conditions are described. For the operator of the third derivative, the resolvent is calculated and an orthonormal basis of eigenfunctions is given.