# BOUNDARY ELEMENT APPROXIMATION OF STEKLOV EIGENVALUE PROBLEM FOR HELMHOLTZ EQUATION

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## BOUNDARY ELEMENT APPROXIMATION OF STEKLOV EIGENVALUE PROBLEM FOR HELMHOLTZ EQUATION

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**Abstract** Steklov eigenvalue problem of Helmholtz equation is considered in the present paper. Steklov eigenvalue problem is reduced to a new variational formula on the boundary of a given domain, in which the self-adjoint property of the original differential operator is kept and the calculating of hyper-singular integral is avoided. A numerical example showing the efficiency of this method and an optimal error estimate are given.

**Key words** <u>Steklov eigenvalue problem</u> <u>differential operator</u> <u>error estimate</u> <u>boundary element approximation.</u>

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