# NUMERICAL APPROXIMATION OF THE STOKES EIGENVALUE PROBLEM

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Abstract. In this work we analyze a finite element approximation of the Stokes eigenvalue problem. We present a variational formulation of the problem relying only on the pseudostress tensor. We present an H(div)-conforming discretization of the problem by means of the lowest order Brezzi-Douglas-Marini mixed finite element. We show that the resulting scheme provides a correct approximation of the spectrum and prove quasi-optimal error estimates. Finally, we present some numerical experiments supporting our theoretical results.

## References

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