Modelling of ring resonators with magneto-optic materials using the finite element method

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In this work we consider the problem of the modal analysis for ring resonators realized with magneto-optic materials [1]. Considering the lossless case (including no radiation loss), we have implemented the finite element method in a cylindrical coordinate systems using the node-based formulation with second order shape functions. The penalty function [2] have been introduced to move out the spurious solutions and the final quadratic eigenvalue problem have been solved using the krylov method.

References

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