A modal approach to light emission and propagation in coupled cavity waveguide systems

We theoretically investigate systems of optical cavities coupled to waveguides, which necessitates the introduction of non-trivial radiation conditions and normalization procedures. In return, the approach provides simple and accurate modeling of Green functions, Purcell factors and perturbation corrections, as well as an alternative approach to the so-called coupled mode theory. In combination, these results may form part of the foundations for highly efficient, yet physically transparent models of light emission and propagation in both classical and quantum integrated photonic circuits.

General information
State: Published
Organisations: Department of Photonics Engineering, Quantum and Laser Photonics, Humboldt University of Berlin
Contributors: Gregersen, N., Kristensen, P. T., de Lasson, J. R., Gregersen, N., Mørk, J.
Number of pages: 2
Publication date: 2016

Host publication information
Title of host publication: Proceedings of the 7th International Conference on Metamaterials, Photonic Crystals and Plasmonics
Source: PublicationPreSubmission
Source-ID: 125482284
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016