

# Optical Properties of Active and Passive Photonic Resonators



*by*

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CIIT/FA15-BPH-019/ISB

BS Thesis  
In  
Physics

**COMSATS University Islamabad**  
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Optical Properties of Active and Passive Photonic  
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A Thesis Presented to

**COMSATS University Islamabad**

In partial fulfillment

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**Bachelor of Science in Physics**

by

Ahmad Bilal  
CUI/FA15-BPH-019/ISB

Spring, 2019

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An Under Graduate Thesis submitted to the Department of Physics as partial fulfillment of the requirement for the award of Degree of BS (Physics).

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## Final Approval

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This thesis titled

# Optical Properties of Active and Passive Photonic Resonators

By

*Ahmad Bilal*

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Has been approved

For the COMSATS University Islamabad

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## Declaration

I, **Ahmad Bilal** (CIIT/FA15-BPH-019/ISB) hereby declare that this project neither as a whole nor as a part there of has been copied out from any source. It is further declared that I have developed this thesis and the accompanied report entirely on the basis of my personal efforts made under the sincere guidance of my supervisor. No portion of the work presented in this report has been submitted in support of any other degree of qualification of this or any other University or Institute of learning, if found I shall stand responsible.

Date:

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## Certificate

It is certified that Ahmad Bilal (Registration No. CIIT/FA156-BPH-019/ISB) has carried out all the work related to this thesis under my supervision at the Department of Physics, COMSATS University Islamabad and the work fulfills the requirement for award of BS degree.

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