

Lab #4 – FDE and FDTD Simulations for MRRs – 100 points.**Submission Link:** <https://www.dropbox.com/request/jd7sXMkMr0gJzT4N3nOK>**Due:** November 2, 2018 at 23:59 (submission link will be deactivated after 23:59).

Please upload a **zip file including your simulation files from Lumerical tools, results (export data), and a lab report. What should be included in the lab report?** Summary of your approach (how the simulation works, explanation of different objects and sources in your simulation) and your approach, as well as all the results and plots from the simulations below.

Tutorial on Lumerical Scripting: https://kb.lumerical.com/en/ref_scripts_scripting_language.html

Lab description: In this Lab assignment, we want to learn how to simulate MRRs in MODE (low accuracy) and FDTD (high accuracy). The simulation instructions are straightforward and described step-by-step in Lumerical Knowledge Base (links below). This lab helps you prepare for your circuit layout design.

Follow the instructions below to simulate an MRR in Lumerical MODE and FDTD. Compare the results (drop and through port responses) in a single plot among MODE, FDTD, and TMM (MATLAB code on Canvas).

https://kb.lumerical.com/en/index.html?getting_started.htmlhttps://kb.lumerical.com/en/index.html?getting_started.htmlhttps://kb.lumerical.com/en/pic_passive_getting_started_ring_resonator_fDTD_discussion.htmlhttps://kb.lumerical.com/en/pic_passive_getting_started_ring_resonator_fDTD_instructions.html