**Lab #6 – MRR Layout Design in KLayout – 100 points.**

**Submission Link:** https://www.dropbox.com/request/XzMCEikzVo9NoJNxydv8

**Due:** December 5, 2018 at 23:59 (submission link will be deactivated after 23:59).

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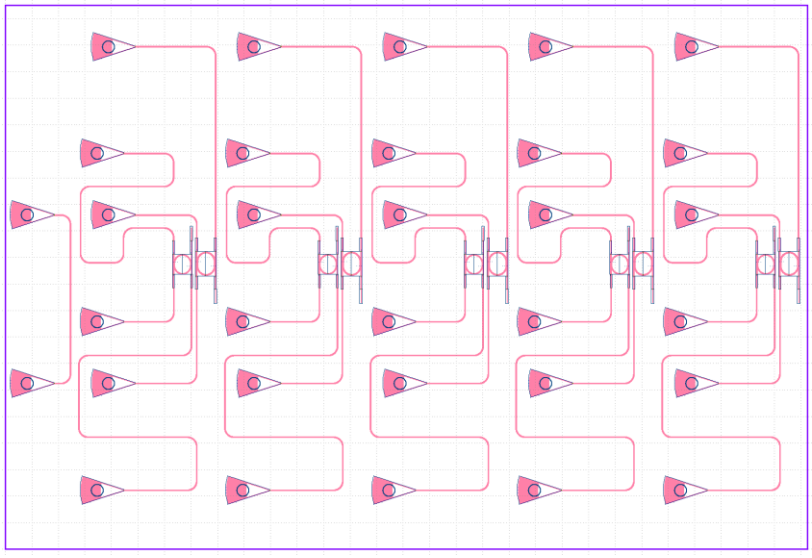
**Please upload a zip file including your Layout (GDS file), and a lab report (PDF file). What should be included in the lab report?** Summary of your approach, a snapshot of your layout from KLayout, and a list of labels you used in your layout.

**Lab description:** In this Lab, we use KLayout to design the MRR layout we simulated in Lab 5. We will use the SiEPIC PDK in KLayout to design the MRR. The chip will be fabricated using Electronic Beam Lithography (EBeam) and will be measured using automated probe station at the university of British Columbia (UBC) in Canada.

Consider the MRR you designed in Lab 5. **Carefully follow the instructions in Week 8 to design the layout for this double-bus MRR.** All the details should be considered carefully: naming the file, the chip size, direction of GCs, distance between GCs, limitations on bend radius, etc. Your layout should be verified using design rule checks in Klayout, hence should be **error free**. **If you do not follow the instructions from Week 8, then your chip will not be fabricated and measured.** You do NOT need to run simulation in Lumerical INTERCONNET from KLayout.

Put multiple copies of the same MRR layout on your chip (use your chip area effectively). The following figure shows an example of a layout designed with KLayout. As you can see, there are multiple copies of the same device layout on this chip. Each device, however, has a unique ID on its input GC.



Depending on how many devices you can put on your chip, **change the radius of one of the MRRs on the layout from 10 micron to 10.005 micron (+5 nm) and another one from 10 micron to 9.995 micron (-5 nm).**

**Make sure you use meaningful Device IDs for each device on your layout (put all the IDs in your report).**

**Slides for Week 8:** **https://colostate.instructure.com/files/10390679/download?download_frd=1**

**Video lecture for Week 8 (October 11):** **https://colostate.instructure.com/courses/73089/external_tools/2755**