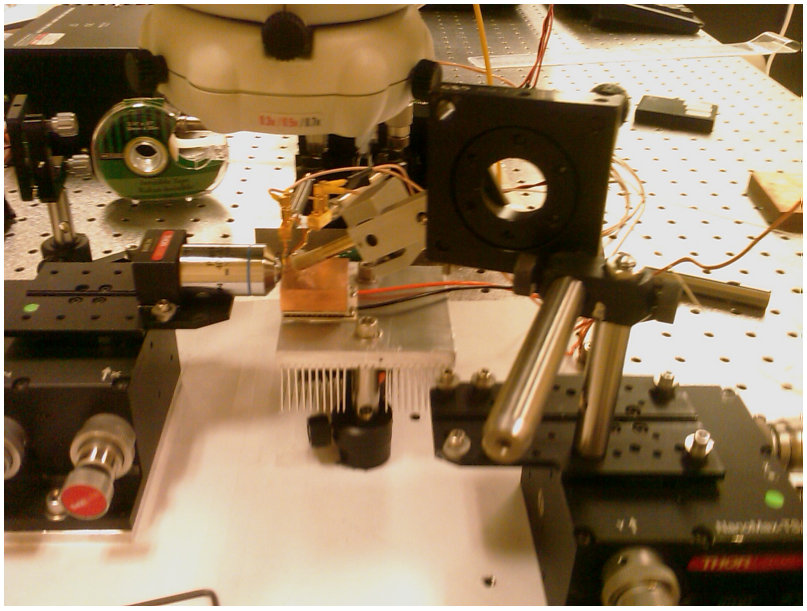
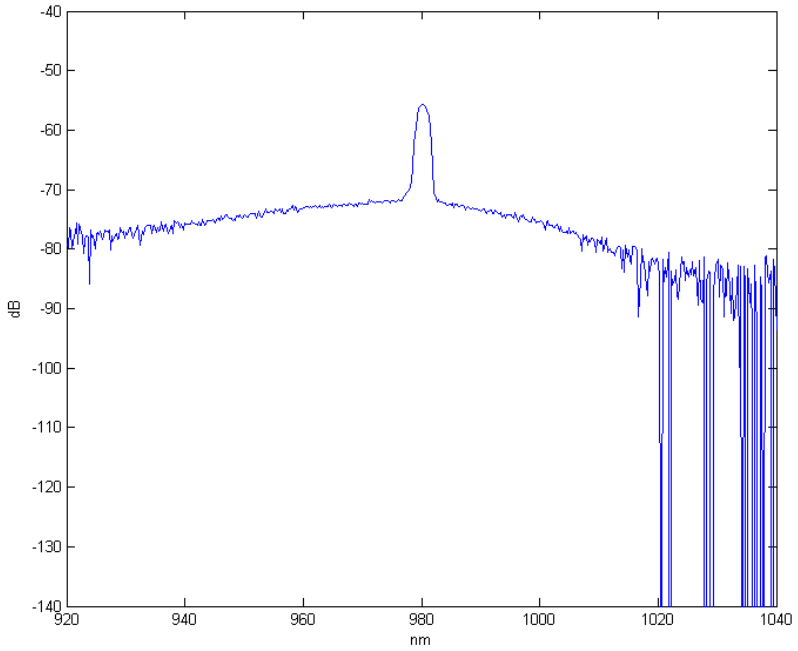
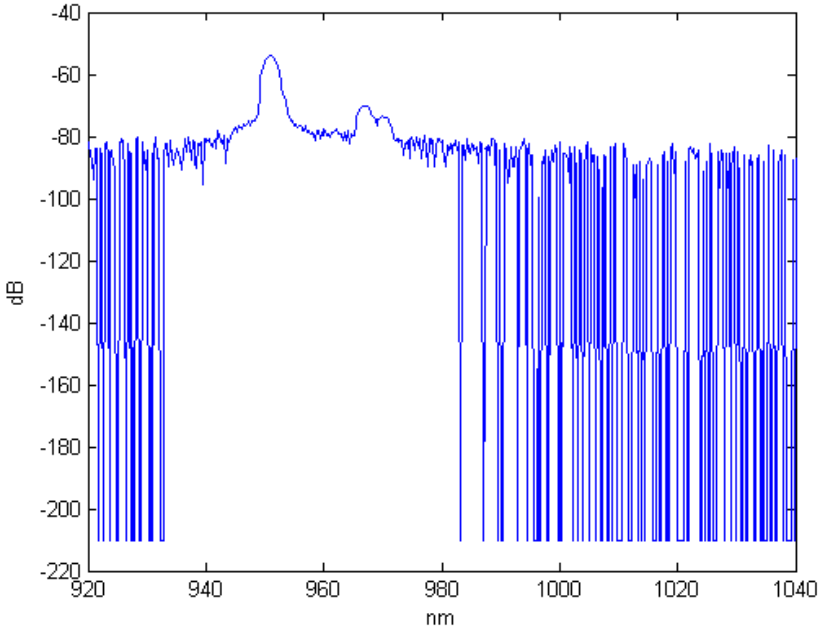
In order to make sure we are getting the best out of the OSA, we borrowed Stewart's Ando OSA. As explained before we used a set up to make angle coupling to the fiber from the back side of the lasers possible.



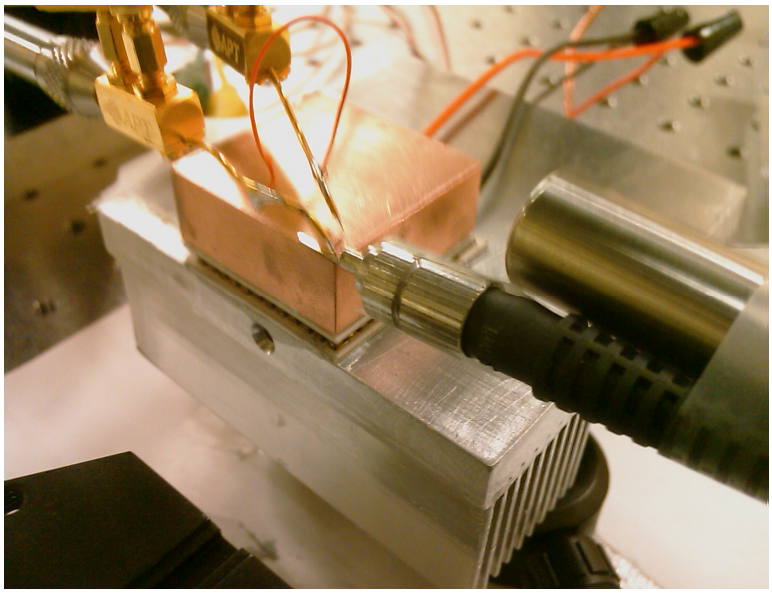
We first maximized the power coupled into the fiber through the power meter, and then looked at the spectrum on the OSA. As such, we were able to see the spectrum of the laser (back facet, with angle) as illustrated below. Because the fiber used, is a multimode fiber, the lasing emission is also coupled into the laser. We assumed that the wide spectra (920-1020nm) is the ASE.



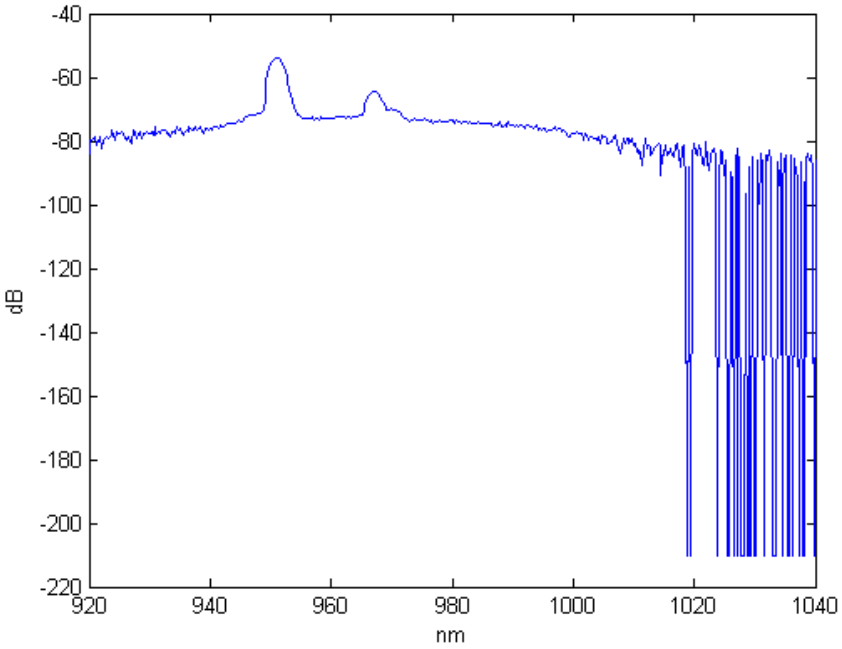
We tried this also with another laser as shown below.



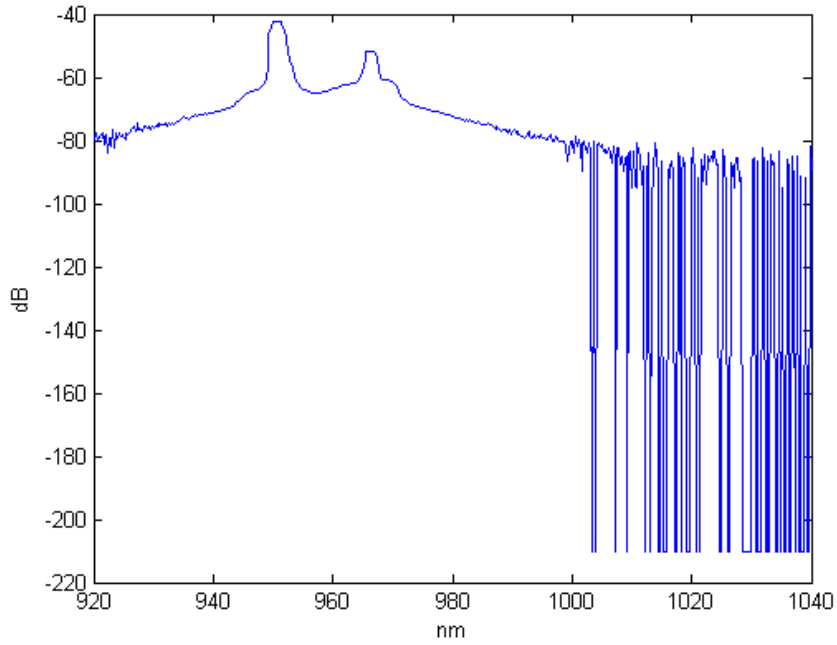
As the fiber is multimode, it seems to be hard to remove the lasing spectra and only keep the ASE using this configuration. In order to do so, we decided to change the configuration so as to couple into the fiber from the side of the laser and collect the slab modes.



Using this configuration, however, I still saw the two peaks even from the side of the laser. The coupling improved overall, but note that this laser was the second one on the side; if one wants to test a laser farther from the side, the spectra quality can become worse than that of angle coupling.



I checked if the same thing can be seen when coupling the laser light to the fiber from the front facet using a 40X lens.



Surprisingly enough, with even front coupling, I could recover most of the data. Here comes a question: if we can not get rid of the stimulated emission spectrum in this experiment, why not just use the front coupling which is way more efficient than the other methods?