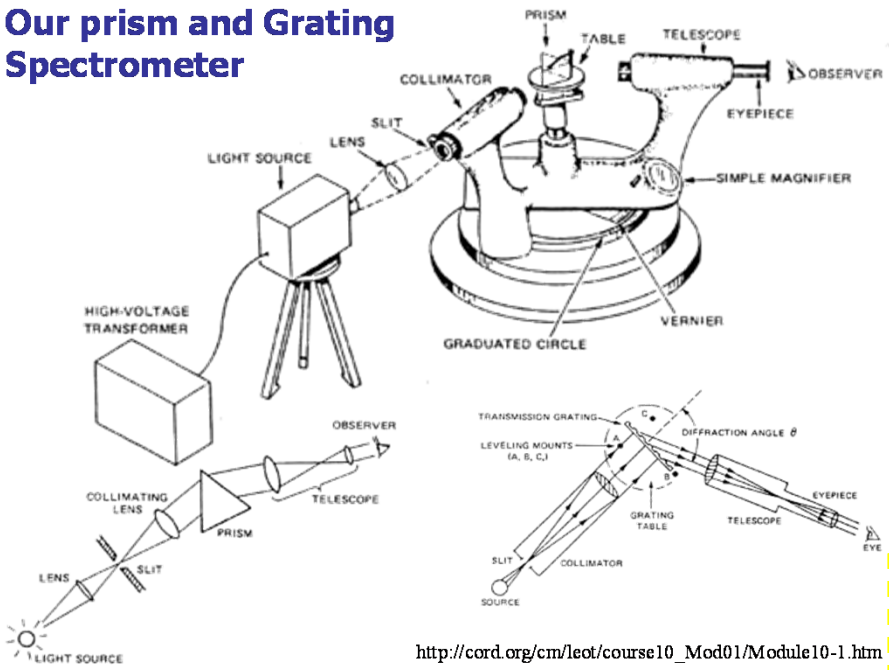
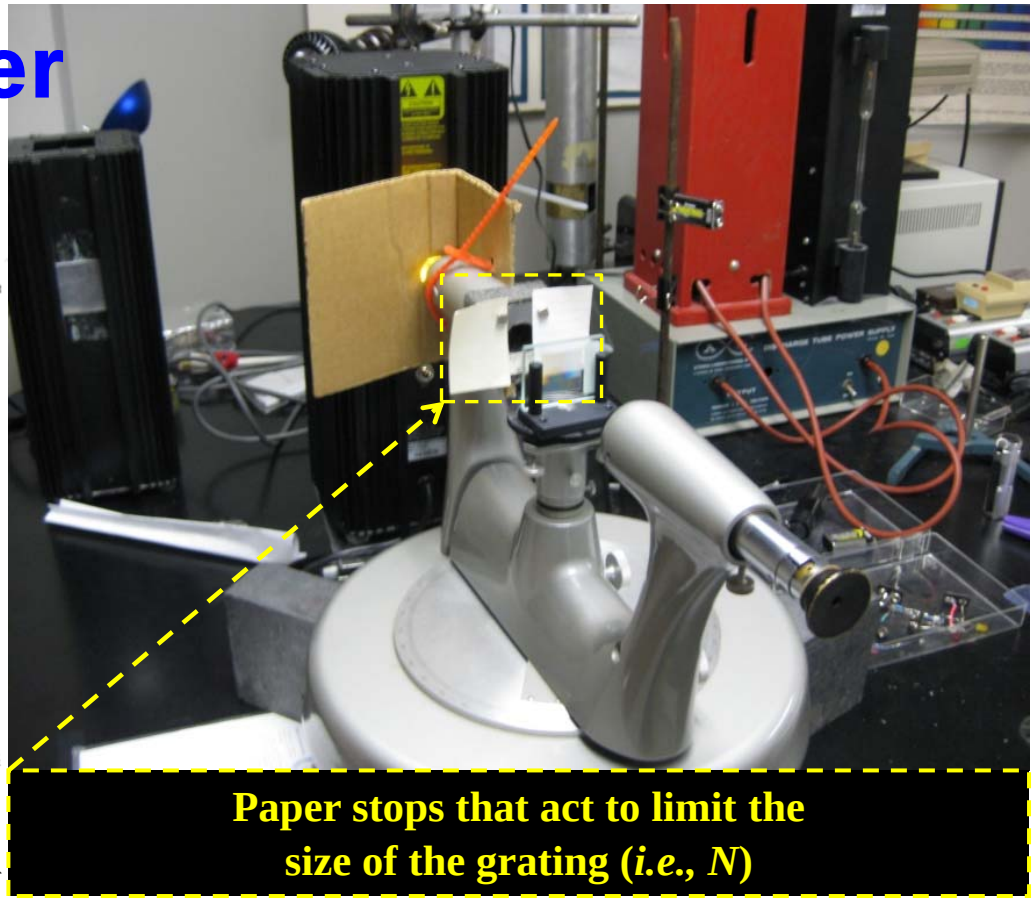
Grating Spectrometer

Our prism and Grating Spectrometer



http://cord.org/cm/leot/course10_Mod01/Module10-1.htm



Paper stops that act to limit the size of the grating (*i.e., N*)

- Measure the doublet position for m = 2, 1, 0, -1, and -2. Note for 0 you may see a very bright line and a much less bright line. Only the very bright line is important.
- For the doublet in m = 1, examine the effect of the "paper stops" on the width of each of the lines of the doublet. (The paper stops are attached with the magnets and are used to change amount of light incident on the grating.)
- Reduce the separation between the stops. Once the "stops" are about 4 mm apart (about the center position) each line starts to blur. By the time the "stops"-slits are 2 mm apart the lines much more blurred. Actually we would expect the loss of resolution (blurring) to be more gradual - it should be linear with separation. There is little loss in resolution until the stops are close together because the light incident on the grating is not uniform.