# Lab 7

## Calculations

* 1. **Compute the apex angle of a prism and its uncertainty**

1. The apex angle:

(Note: If the difference between the two angles is about 240 degrees, the difference should be subtracted by 360°. For example, and , their difference is not but 360)=119).

1. The type A evaluation of uncertainty in *θ*1, *θ*1', *θ*2, *θ*2'.
2. The type B evaluation of uncertainty in *θ*1, *θ*1', *θ*2, *θ*2'.
3. The combined uncertainty in *θ*1, *θ*1', *θ*2, *θ*2'.
4. The uncertainty in apex angle *A*:
5. The final result of the apex angle:
   1. **Compute the wavelengths of yellow doublet lines**
6. The diffraction angles of spectral lines of green, yellow doublet tint. For example, for green line,

1. The diffraction space *d*, (*λgreen*=546.07 nm).
2. The wavelengths of yellow doublet lines, ;
3. The relative error of . Find the accepted values in Fig. 2-12.