Astronomy 4100, Homework # 02, 14 January 2015 (due 21 January 2015).

1. Recall the data from Homework # 01. Use that data to calculate h, i.e. Planck's Constant, and the work function of the metal. What metal is being used? You can look them up on the net. They are usually given in eV.

2. Given that the blackbody spectrum is given by

$$u(\nu, T) = \frac{8\pi h\nu^3}{c^3 kT(\exp(h\nu/kT) - 1)}$$

derive Wien's displacement law, i.e. $\nu_{max} = \text{Constant} \times T$, and give the value of the constant in terms of k/h.