

The spectrum at one atmosphere includes a peak near 31 kK assigned⁽⁴⁾ to a $5s^2 \rightarrow 5s^1 5p^1$ excitation on Sb(III) and one near 37 kK assigned⁽⁴⁾ to an excitation on Sb(V) mixed with the fundamental absorption edge of the crystal. In addition there are mixed valence peaks near 18 and 27 kK. We label these MV_1 and MV_2 . They shift rapidly to lower energy with increasing pressure. In Fig. 1 we exhibit the shift of the MV_1 peak in Cs_2SbCl_6 and also in $Cs_2Sb_{0.3}Sn_{0.7}Cl_6$. The shift is ~5 kK in 120 kilobars with no significant difference between the two compounds. The MV_2 peak shifts at least as rapidly with increasing pressure. In Fig. 2 we exhibit the spectrum in the visible and UV at several pressures. There are a number of features to be observed. The MV_2 peak shifts to lower energy and fades in intensity with pressure. The peak at ~31 kK assigned to Sb(III) also shifts to lower energy (~2.3 kK) and loses intensity. It is hard to discern any appreciable effect on the peak located near 37 kK and assigned to Sb(V) mixed with the absorption edge of the crystal. The spectrum was resolved into Gaussian peaks and the relative area of the MV_2 peak as a function of pressure is plotted in Fig. 3. These results must be taken as an estimate, but there is no doubt about the decrease in area. The MV_1 peak also decreased in area, but its position was measured using a different (IR) photomultiplier tube so that it was difficult to obtain a fiducial point to calculate areas. It decreased in area by over a factor of two with no appreciable change in half width.