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7.9

5.6

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As<sub>2</sub>Se<sub>3</sub> appear  
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l pressure<sup>8,9</sup> co-  
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hose for As<sub>2</sub>Se<sub>3</sub>,  
ve a large  
ion term. In  
ature dependence  
low values of  
0<sup>2</sup> cm<sup>-1</sup>) in a  
Ge<sub>16</sub>As<sub>35</sub>Te<sub>28</sub>S<sub>21</sub>  
re and temperature  
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re coefficient.  
on term is there-  
o crystalline and  
nd a chalcogenide-  
ion for the large

negative explicit temperature coefficient  
( $\partial E/\partial T$ )<sub>V</sub> in terms of the large increase in the  
volume of the As<sub>2</sub>Se<sub>3</sub> chains with temperature  
relative to the overall volume of the crystal is  
given by Mott.<sup>11</sup>

The large negative pressure coefficients of  
the optical gap in crystalline and amorphous  
As<sub>2</sub>Se<sub>3</sub> gives reason to expect contributions to

the valence levels involved in the optical  
transitions from electrons of s-like symmetry  
derived from As or Se 4s atomic states. An  
alternative argument could relate to the  
anisotropy of this material independent of the  
symmetry of the bands. Band structure  
calculations which are at present under way  
will be of value in determining the energy  
levels which give rise to the optical absorp-  
tion edge.

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On a regardé l'effet d'une pression hydrostatique sur le spectre d'absorption optique d'échantillons cristallins ou amorphes de As<sub>2</sub>Se<sub>3</sub> à 80°K et 274°K dans la limite de forts coefficients d'absorption optique (de 10<sup>3</sup> à 10<sup>4</sup> cm<sup>-1</sup>). Dans le cas de As<sub>2</sub>Se<sub>3</sub> amorphe, on a évalué les contributions dépendant de la température au spectre d'absorption optique provenant de l'interaction électron-phonon ou de la dilatation du réseau.