

Fig. 3. Plot of  $\ln(\nu/\nu_0)$  vs.  $\ln(v/v_0)$  for Several Optic Modes.

Pressure dependencies of two phases of a solid can be determined by these techniques.<sup>23</sup> Such studies have been made with KBr<sup>23</sup> and KCl.<sup>9,23</sup> Figures 4 and 5 show the TO mode of KBr and KCl as a function of pressure. The difficulty of studying phase transitions is illustrated by the figures. The pressure gradient across the diamond anvils prevents the detection of a sharp transition pressure and both phases appear over a range of pressure. The high pressure phase (CsCl structure) appears at 16 kbars for KBr and at 24 kbar for KCl. The conversion to the high pressure phase is complete at 26 kbars and 30 kbars for KBr and KCl respectively. For a limited average pressure range the TO mode of both the low and high pressure phases can be detected, with a gradual decrease in the intensity of the low pressure phase and the in-

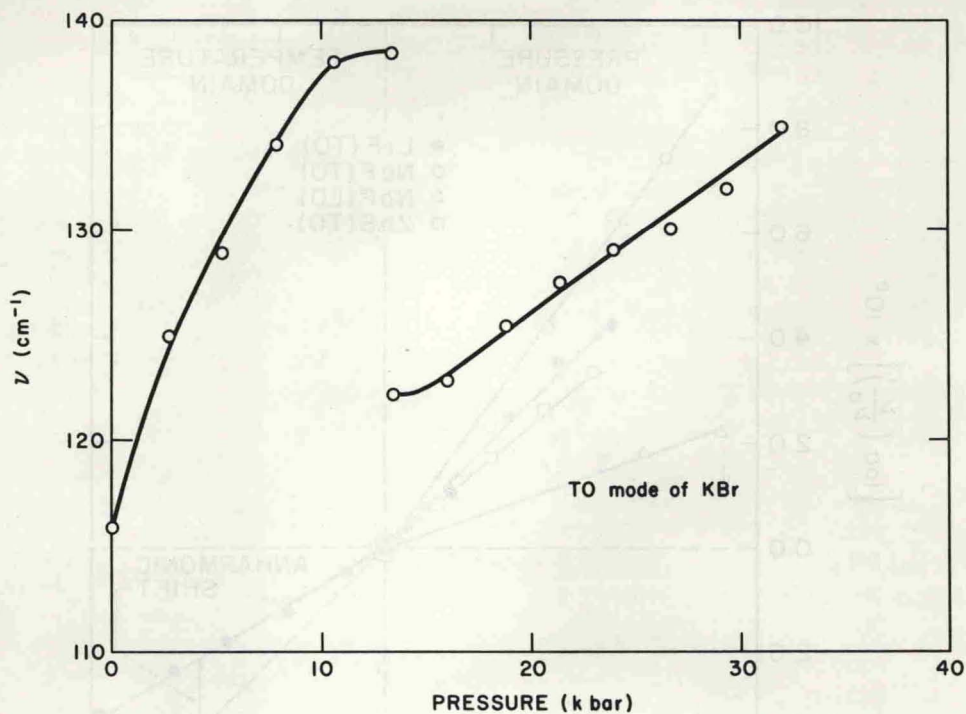


Fig. 4. TO Mode of KBr as a Function of Pressure.

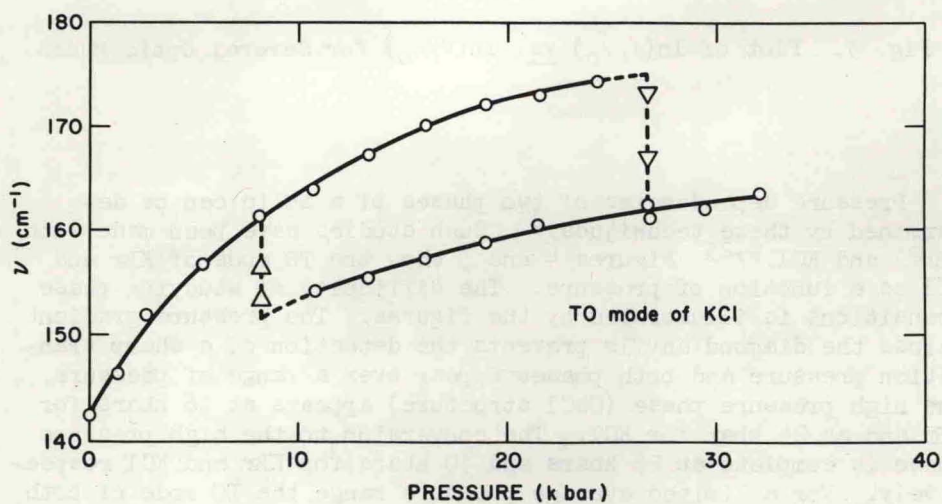


Fig. 5. TO Mode of KCl as a Function of Pressure.