

PRESSURE AND STRAIN SENSITIVITY  
OF InSe AND GaSe LAYERED SEMICONDUCTORS

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S u m m a r y

Experimental data on the pressure sensitivity of InSe and GaSe layered semiconductor crystals and their metal intercalates are obtained. From the measurement results, the pressure (dynamic) sensitivity coefficient for these compounds is determined. High values of the pressure sensitivity coefficient for InSe and GaSe crystals and their intercalates at fast-varying pressures ( $k_P \approx 10^{-8} \div 10^{-7} \text{ Pa}^{-1}$ ) open a possibility to use them as sensitive elements of overload indicators (accelerometers). Based on the measurements and the calculations carried out for “layered crystal–silicon” structures, it is established that, in the range of relative deformations of the order of  $10^{-5} \text{ Pa}^{-1}$ , the strain sensitivity factor  $k_T = 1300 \div 1500$ , while, in the range of relative deformations of  $10^{-4} \text{ Pa}^{-1}$ ,  $k_T = 300$ . It is found that the strain sensitivity of intercalated layered crystals depends on the degree of overlapping of the atomic orbits of an intercalant and its density.