



## Polar Crystals

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Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | Physical Nature and New Effects | A novel conception of piezoelectricity physical nature is proposed and discussed. Some peculiarities of piezoelectric crystals (so called polar-neutral crystals) would be described by a assumption of their intrinsic (latent) polarity. Its components show a critical law  $P \sim (T)^n$  and vanish at the phase transition temperature. The critical parameter equals to  $n = 1$  if all components of intrinsic polarity are flatness arranged (two-dimensional case, 2D). For spatial (3D) arrangement of the latent polarity components this exponent is  $n = 2$ . These differ essentially from 1D ferroelectric spontaneous polarization that shows  $P(T)$  critical law with the  $n = 0.5$ . For technical application, it means that under the anisotropy of boundary conditions any high-gap III-V semiconductor-piezoelectric shows a behavior of pyroelectric crystal. Such crystals might be used as far infrared sensor or as a piezoelectric sensor integrated with amplifier in one III-V crystal. | Format: Paperback | Language/Sprache: english | 139 gr | 220x150x5 mm | 92 pp.



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