

longitudinal with respect to thermal flow. It can only arise in an irregular media and can be both even and odd. It is impossible today to evaluate these effects due to the absence of data on the nondiagonal components of the thermal conductivity tensor in these crystals.

Thermomagnetic analogue of the Grabner effect $\Delta\tau_q \mathbf{P} \perp \mathbf{G}$. Both the even and odd effects can occur in the low-symmetry (strong anisotropy) anisotropic media.

Even thermomagnetic analogue of the Hall effect

$\Delta\tau_q^+ \mathbf{P} \perp \mathbf{H}$. To discover this effect one must have data for the even component (with respect to a magnetic field) of the thermal conductivity tensor. There no information pertaining to this case in the literature, but thermodynamics of irreversible processes show that, this component can be non-zero in low-symmetry crystals [45].

The other new thermogradient thermomagnetic effects

$\Delta\tau_q^- \mathbf{C} \perp, \Delta\tau_q^- \mathbf{P} \perp \mathbf{G}, \Delta\tau_q^+ \mathbf{C} \perp, \Delta\tau_q^+ \mathbf{P} \perp \mathbf{H}, \Delta\tau_q^+ \mathbf{P} \perp \mathbf{G}, \Delta\tau_q^+ \mathbf{P} \perp \mathbf{H}, \Delta\tau_q^+ \mathbf{P} \parallel \mathbf{G},$

$\Delta\tau_j^+ \mathbf{C} \perp, \Delta\tau_j^- \mathbf{P} \parallel, \Delta\tau_j^- \mathbf{P} \parallel \mathbf{G}, \Delta\tau_j^-, \Delta\tau_j^- \mathbf{C} \perp, \Delta\tau_j^- \mathbf{P} \perp \mathbf{G}, \Delta\tau_j^+ \mathbf{C} \perp, \Delta\tau_j^+ \mathbf{P} \perp \mathbf{H},$

$\Delta\tau_j^+ \mathbf{P} \perp \mathbf{G}, \Delta\tau_j^- \mathbf{C} \parallel, \Delta\tau_j^- \mathbf{C} \perp$ have been neither studied theoretically nor experimentally.

3.2. New thermogradient galvanoothermomagnetic effects

The occurrence of effects $\tau_j^+ \mathbf{P} \perp \mathbf{H}, \Delta\tau_j^+ \mathbf{P} \parallel \mathbf{H}, \Delta\tau_j^+ \mathbf{C} \perp, \Delta\tau_j^- \mathbf{P} \parallel, \Delta\tau_j^- \mathbf{P} \perp \mathbf{G}, \Delta\tau_j^- \mathbf{C} \parallel, \Delta\tau_j^- \mathbf{C} \perp$ requires either the existence of the non-zero even antisymmetric components of tensors $\hat{\alpha}$ and $\hat{\gamma}$, or odd symmetric components of these tensors. For the evaluation of effects one can use the data on the commutation effect (in a magnetic field) in bismuth and its alloys [14].

3.3. New caloric surface effects

As long as the effects $\Delta\mathbf{K}_j \mathbf{P} \perp \mathbf{H}, \Delta\mathbf{K}_j \mathbf{P} \parallel \mathbf{G}, \Delta\mathbf{K}_j \mathbf{C} \perp, \Delta\mathbf{K}_j \mathbf{P} \parallel, \Delta\mathbf{K}_j \mathbf{C} \parallel$ have a similar physical nature as those of the new