

by the additional terms odd with respect to the magnetic field. From (1.183) it follows that the odd Thomson effect, in contrast to the isotropic case, is possible in the medium where the Seebeck tensor coefficient does not depend on temperature.

2.6. Impossible effects

The above thermodynamic analysis shows that the longitudinal thermomagnetic and voltaic galvanomagnetic effects cannot occur in any medium. In accordance with the Neumann principle, medium symmetry forbids the occurrence of a series of effects in the

Table 1.16. Impossible effects.

Medium			
Irregular	Quasi-Onsager	Gyrotropic	Isotropic
$\Delta E_{\tau}^{-}\parallel$	$EO_{\perp} \Delta E^{-}\parallel$	$EO_{\perp}, \Delta E^{-}$ $\Delta E_{\tau}^{-}\perp, \Delta E^{-}C_{\perp}$	$E_j O_{\perp} \tau_q O_{\perp}$ $EO_{\perp} \tau O_{\perp}$
$\Delta \tau^{-}\parallel$	$\Delta \tau^{-}\parallel$	$\Delta \tau^{-}\parallel, \Delta \tau_q^{-} P_{\perp} G$ $\Delta \tau_q^{-} C_{\perp}, \Delta \tau_q^{+} \perp$	
$\Delta E_j^{-}\parallel$	$\Delta E_j^{-}\parallel$	$\Delta E_j^{-}\parallel, \Delta E_j^{-} C_{\perp},$ $\Delta E_j^{-} P_{\perp} G, \Delta E_j^{+} P_{\perp} H$ $\Delta E_j^{+} C_{\perp}, \Delta E_j^{+} P_{\perp} H$	

quasi-Onsager, gyrotropic and isotropic media. These effects that cannot occur are listed in the Table 1.16.

3. New thermoelectric effects

The classification carried out in the previous paragraph resulted in the prediction of the yet unknown effects. They are listed in Table 1.17. As is seen from the figure, these are new thermogradient and caloric effects.