PROCESS OF PHONON DIFFUSION THROUGH CRYSTALLINE STRUCTURES

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Abstract: Instead of usual approach, applying displacement-displacement Green's functions, the momentum-momentum Green's functions will be used to calculate the diffusion tensor. These functions enter into Kubo's formula defining diffusion properties of the system. Calculation of the diffusion tensor requires solving of the system of difference equations. It is shown that the elements of the diffusion tensor express discrete behaviour of the dispersion law of elementary excitations and, more important - that they are temperature independent.
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