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**phonon wikipedia** Feb 07 2021 web in physics a phonon is a collective excitation in a periodic elastic arrangement of atoms or molecules in condensed matter specifically in solids and some liquids a type of quasiparticle a phonon is an excited state in the quantum mechanical quantization of the modes of vibrations for elastic structures of interacting particles phonons can be thought

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lowest occupied state is taken to have zero kinetic energy whereas in a metal the lowest

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wigner seitz cell wikipedia Aug 01 2020 web the cell may be chosen by first picking a lattice point after a point is chosen lines are drawn to all nearby lattice points at the midpoint of each line another line is drawn normal to each of the first set of lines the smallest area enclosed in this way is called the wigner seitz primitive cell for a 3 dimensional lattice the steps are analogous but in step 2 instead

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[electronic band structure wikipedia](#) May 22 2022 web the density of states function  $g_e$  is defined as the number of electronic states per unit volume per unit energy for electron energies near  $e$  the density of states function is important for calculations of effects based on band theory in fermi s golden rule a calculation for the rate of optical absorption it provides both the number of excitable

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[einstein relation kinetic theory wikipedia](#) Jul 12 2021 web where  $D$  is the diffusion coefficient  $\mu$  is the mobility or the ratio of the particle s terminal drift velocity to an applied force  $\mu = v_d / F$   $k_B$  is the boltzmann constant  $T$  is the absolute temperature this equation is an early example of a fluctuation dissipation relation two frequently used important special forms of the relation are einstein smoluchowski

[quasiparticle wikipedia](#) May 30 2020 web overview general introduction solids are made of only three kinds of particles electrons protons and

neutrons quasiparticles are none of these instead each of them is an emergent phenomenon that occurs inside the solid therefore while it is quite possible to have a single particle electron or proton or neutron floating in space a quasiparticle