Material database

The material database file is called `Material_Database.xml`. The material database syntax is the same as for the nextnano.MSB code. The default material parameters are taken from I. Vurgaftman, J. R. Meyer, L. R. Ram-Mohan, J. Appl. Phys. 89, 5815 (2001).

Some parameters can be overwritten in the input file, see section on `<Material_Parameters>` in the input file documentation.

S = 1+2F <!– parameter that accounts for remote-band effects in 8-band k.p theory –>

<DeformationPotential Unit="eV">-7.2</DeformationPotential> corresponds to "a_c" of Vurgaftman (i.e. for the conduction band only) in the isotropic approximation. It is used to calculate the shift of the conduction abnd edge due to strain. It is also used to calculate scattering by acoustic phonons (which is a very small effect, almost negligible in typical QCLs).