**Notation**

|  |  |
| --- | --- |
|  | Stress |
|  | Homogenous Stress |
|  | Heterogeneous Stress |
|  |  |
|  | Stress Free Transformation Strain, Eigenstrain |
|  | Strain |
|  | Homogenous Strain |
|  | Heterogeneous Strain |
|  |  |
|  | Displacement Field |
|  |  |
|  | Symmetry of strain and stress |
|  |  |
|  | Electric Displacement Field |
|  |  |
|  | As Tensor Summation Indices, Run from 1 to 3 |
|  |  |
|  |  |
|  | Real Space Cartesian Axes |
|  | Function in Real Space |
|  | 2D Fourier Transform (FT) Coordinates (FT along ) |
|  | 2D FT |
|  | 2D Inverse Fourier Transform (IFT) |
|  | Function in 2D FT Coordinates |
|  |  |
|  | Function in 3D FT Coordinates |
|  | 3D FT Coordinates |
|  | 3D FT |
|  | 3D IFT |
|  |  |

Summing over all the volume elements:

Anisotropic Cubic Elastic Tensor:

Anisotropic Electrostriction Tensor (Note the definition of ).

Landau energy coefficients

In our notation repeated subscript indices will indicate addition:

The coordinate axes will be Cartesian: . Commas in the subscript will indicate differentiation with respect to a coordinate axis:

Indices can only repeat twice in the Einstein summation shorthand.

Tensor Inverses

is defined such that