

1.4. THERMAL EXPANSION

LiAlSiO₄) in a glassy matrix, an expansion coefficient can be achieved that is nearly zero over a desired temperature range.

A compilation of numerical values of the tensor components of more than 400 important crystals of different symmetry is given by Krishnan *et al.* (1979).

Phase transitions are accompanied and characterized by discontinuous changes of derivatives of the free energy. Since the thermal expansion β is a second-order derivative, discontinuities or changes of slope in the $\beta(T)$ curve are used to detect and to describe phase transitions (*cf.* Chapter 3.1).

1.4.5. Glossary

α_{ij}	thermal expansion
β	volume thermal expansion
γ	Grüneisen parameter
κ	isothermal compressibility
u_{ij}	strain tensor
c^V	specific heat at constant volume
F	free energy
p	pressure
S	entropy
T	temperature
V	volume

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