

ferroelectric (antiferroelectric) transition

A transition from a ferroelectric to either another ferroelectric, or a paraelectric, or an antiferroelectric state.

Example: The transition of the low-temperature, cubic paraelectric BaTiO₃ to the high-temperature, tetragonal, ferroelectric form at 393 K.

Notes:

1. In an antiferroelectric transition individual dipoles become arranged antiparallel to adjacent dipoles with the result that the net spontaneous polarization is zero.
2. Ferroelectric/antiferroelectric transitions also occur in the liquid-crystal state. These states are dependent on the alternating nature of dipoles between layers in the *smectic state*.

See *ferroic transition*.

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