

WDBAUER-Links:

<http://nanoworld2003.narod.ru/01/DATA/CLUB/overuni/theory.htm>

5) The Zaev-effect

Abstract:

The Zaev effect is an electro- or magnetocaloric effect which probably violates the Second Law. **The effect appears if a capacitance is charged and discharged with different velocities.** Then under certain conditions **more output than input energy needed comes from the capacitance probably due to a conversion of heat into electricity** during the cycle. For introductory reading and following the last discussions, see [here](#).

A **differential equation** is developed which **calculates the thermal hysteresis** of an arbitrary material in an electric cycle. It is shown by a numerical example for susceptibilities dependent in first order from E that the Zaev effect can not be produced as a classical electrocaloric thermodynamic effect. Experimental data from Partington et al. suggest that such an **effect may exist if the paraelectric material properties show relaxation under voltage, i.e. if they are time dependent.** In Part III literature references are discussed which seem to confirm the experimental data and give an outlook on new possible theoretical interpretations of these effects.

Variconds:

<http://encyclopedia2.thefreedictionary.com/Varicond>

hier sind zum Beispiel Kondensatoren erwähnt , etwa die Type BK2-BIII mit 220 Mikrofarad, 160 V,

http://universal_lexikon.deacademic.com/237637/ Ferroelektrika

<http://jnaudin.free.fr/html/polcurves.htm>

<http://jnaudin.free.fr/html/nzaexp.htm> Zaev Generator

<http://jnaudin.free.fr/html/nzaevsg1.htm> Zaev Generator

<http://jnaudin.free.fr/html/nlcsim.htm> Simulationsmodell

<http://jnaudin.free.fr/html/nzaevsg2.htm> F A Q

<http://jnaudin.free.fr/html/nzaevsg3.htm> Testbericht

Excess Energy in Electret:

<http://newenergytimes.com/v2/archives/fic/N/N199504s.PDF>