

SEMINARIUM RENTGENOWSKIE

Dnia 01.04.2014r. o godz. 10.30, w Sali D Instytutu Fizyki PAN, odbędzie się seminarium, na którym **dr Yevgen Melikhov** z Instytutu Fizyki PAN, wygłosi referat na temat:

"Advances in Phenomenological Modelling of Hysteresis"

Abstract:

There is substantial mathematical apparatus developed to deal with dynamic systems with losses in various sciences (physics, chemistry, biology, computer science, social science, etc.). In physics, for example, magnetism is one of the areas where dynamic modelling of ferromagnetic material with losses (hysteresis) is widely studied: magnetisation (output) has a non-linear, non-one-to-one dependence to the variation of external magnetic field (input).

This talk will present recent advancements in phenomenological modelling of hysteresis using the example of the Preisach model applicable to describe irreversible magneto-transport phenomena in magnetically ordered half-metals (see Figure 1). Other examples of applicability of the phenomenological models to describe standard magnetic hysteresis, *temperature* effects on magnetic curves, hysteresis in materials with *two-magnetic-phase* behavior, inverted hysteresis loops with *negative coercivity*, and even hysteresis effects in *Economics*, will be also discussed.

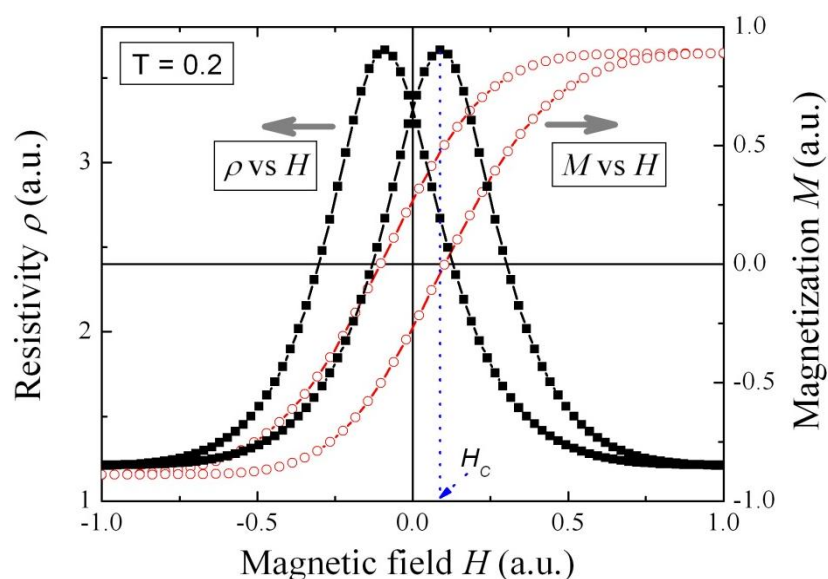


Figure 1. Typical major hysteresis loops of magnetization and resistance as a function of applied field at certain temperature for half-metallic ferromagnets.

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