



Contribution ID: 151

Type: not specified

## Beyond the phenomenology of the BCS model

*Thursday, 6 July 2017 14:00 (15 minutes)*

By a reevaluation of the grandcanonical partition function, we show that the phenomenology of the BCS model is much richer than previously known: the phase transition may be discontinuous (the energy gap has a jump at the phase transition temperature), there may be two solutions for the energy gap at the same temperature, etc. We present both zero temperature [1] and finite temperature results [2].

[1] D. V. Anghel, arXiv:1609.07931.

[2] D. V. Anghel and G. A. Nemnes, Physica A 464, 74 (2016)

**Primary author:** Dr ANGHEL, Dragos-Victor (IFIN-HH)

**Co-author:** Dr NEMNES, George Alexandru (Horia Hulubei National Institute for Physics and Nuclear Engineering, 077126, Magurele-Illfov, Romania)

**Presenter:** Dr ANGHEL, Dragos-Victor (IFIN-HH)

**Session Classification:** Mathematical methods and application software for modeling complex systems and engineering (III)