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# Superconducting Granular as a Kondo system

Guy Deutscher\*<sup>1</sup>

<sup>1</sup>Tel Aviv University – Israel

## Abstract

Guy Deutscher  
School of Physics and Astronomy, Tel Aviv University

### Abstract

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Study of the magneto-resistance of granular Aluminum films in the range of 20K to 100K has recently established the presence of magnetic moments interacting with conduction electrons.<sup>1</sup> The presence of these moments explains the Kondo-like logarithmic increase of resistance at low temperatures. The co-existence of these magnetic moments with an enhanced critical temperature will be discussed. The low temperature behavior of the magneto-resistance, which changes from negative at high temperatures at all fields, to positive in low fields and returning to negative at high fields, is qualitatively similar to that of Kondo lattices such as CeAl<sub>3</sub> and UPt<sub>3</sub>. The possibility that granular Al may be considered as a Kondo lattice of quantum dots will be submitted in the context of a recent theory that attempts to explain the occurrence of superconductivity in Kondo lattices in terms of a local spin fluctuating mechanism. <sup>2</sup>

- 1) N.Bachar et al., to appear in Phys. Rev. B.
- 2) O. Bodensiek et al., Phys. Rev Lett. **110**, 146406 (2013).

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\*Speaker