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Phil Anderson's Magnetic Ideas in Superconductivity¹

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In Philip W. Anderson's research, magnetism plays a special role, providing a prism through which other forms of collective behavior and broken symmetry, particularly superconductivity can be examined. This talk covers Phil Anderson's work on superconductivity, from his pseudo-spin formulation of BCS theory, to the Anderson Higg's mechanism and the RVB theory of cuprate superconductivity. Material will be drawn from various discussions that took place at the conference celebration of Anderson's 90 th birthday in 2013.

¹Articles by E. Witten, G. Baskaran, F. Wilczek and P. Coleman in PWA90: A Lifetime of Emergence. World Scientific, (Editors, Premi Chandra, Piers Coleman, Gabi Kotliar, Phuan Ong and Clare Yu) World Scientific, (2016).