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# Re-examination of Z<sub>2</sub> Vortex-Induced Broadening of the EPR Linewidth in the Triangular Heisenberg Antiferromagnets

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From the viewpoint of recent renewed interests of the exotic behaviors in triangular Heisenberg antiferromagnets [1,2], I will review our previous study on the EPR linewidth of the quasi two-dimensional triangular antiferromagnets, HCrO<sub>2</sub> and LiCrO<sub>2</sub>, which published two decades ago [3]. The interesting observation is that a singular point of the EPR signal is located around the critical temperature of phase transition associated with the pairing-dissociation of the Z<sub>2</sub> vortices, propose by Kawamura and Miyashita. The EPR linewidth exhibits Z<sub>2</sub> vortex-induced broadening above the critical temperature which is inversely proportional to the thermally excited vortex density,  $n \propto \exp(-E/kT)$  with the activation energy E of free Z<sub>2</sub> vortex.

[1]S. Nakatsuji et al., Science, 309, 1697 (2005)

[2]A. Olariu et al., Phys. Rev. Letters, 97, 167203 (2006)

[3]Y. Ajiro et al., J. Phys. Soc. Jpn.,57, 2268 (1988)