

**TIFR Centre for Interdisciplinary Sciences,
Narsingi, Hyderabad 500075**

Seminar

**High-Field High-Frequency EPR Studies of Hexanuclear Fe(III)₆
Cluster With an S = 5 ground State; Single Molecule
Magnets (SMMs)**

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Abstract: SMMs are mono or multi-metallic clusters with large spin ground state (S) and negative anisotropy (-D) associated with S,1 and have been shown that SMMs have potential applications in; (i) high-density information storage (ii) low-temperature magnetic refrigerants.. etc.2-9 We have synthesized hexanuclear, [Fe(III)₆(OH)₂(O)₂{(C₄N₂H₂SMe)CO₂H}₂(Me₃CCO₂)₁₀] cluster with S = 5 ground state and it possess -D with significant rhombicity (Fig. 1), but did not show any SMMs properties. The history behind this interesting study will be discussed in deep. This will be followed up immediately with discussion of future research plans.

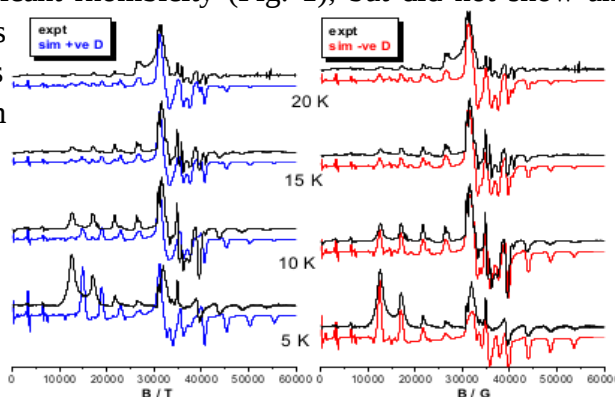


Figure 1. W-band variable temperature EPR spectra of Fe(III)₆ cluster and simulated Data; black = experimental, blue = simulation with +D, red = -D

Date: Tuesday, Aug 06th 2013

Time: 11:30AM (Tea/Coffee at 11:15AM)

Venue: Conference Hall, TCIS

All are cordially invited