## **SAIP2013**



Contribution ID: 560 Type: Oral Presentation

## Benefits of the circular current's duo Cartesian magnetic dipolar model

Friday, 12 July 2013 11:10 (20 minutes)

## Abstract content <br > &nbsp; (Max 300 words)

After the realization of the circular current's model of two merged distributions of distinct Cartesian x and y component line current elements, we show its added benefits. These include how magnetic dipolar functions of dipolar moments, torques, magnetic vector potentials, and fields differ from their counterparts for a simple axial electric dipole. Further, as the traditional ad hoc definition of magnetic dipolar moment is incorrect by a factor of 2, inherently a factor of 2 or ½ should be inserted in certain magnetic relations involving the concept of magnetic moment per unit volume. Finally, the model affirms the magnetic Gauss' law as well as the irrelevance of the traditional fictitious magnetic scalar charge to magnetic phenomena

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yes

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Session Classification: DCMPM2

Track Classification: Track A - Division for Condensed Matter Physics and Materials