

Galactic magnetism: from a battery to the turbulent Dynamo

The origin and maintenance of coherent magnetic fields in galaxies is reviewed. We begin with an interesting baroclinic battery which can generate seed magnetic fields, worked out in collaboration with Prof. Chitre. These seed fields need to be further amplified and maintained by a dynamo to explain observed magnetic fields in galaxies. Basic ideas behind large-scale turbulent dynamos are discussed with particular emphasis on current theoretical challenges and their possible resolution.

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