Magnetism in the planet Earth and its mathematical modelling

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Two main mechanisms by which the planetary magnetism is manifested, i.e. magnetodynamo and paleomagnetism, will be presented, together with their mathematical models based on continuum thermomechanics at large deformations. The latter mechanism (paleomagnetism) will be restricted on thermoremanent magnetization where the antiferro-to-ferro-magnetic (or parra-to-ferro-magnetic) transition combined with solidification-melting are interesting phenomenona to be modelled.