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Magnetic implosion of coronal loops: observations and modelling

The equilibrium of coronal structures like loops in active regions is determined by a balance between the inward magnetic tension and the outward magnetic pressure gradient forces. The dissipation of the magnetic energy from the volume below the loops after a flare causes the lack of magnetic support, hence a contraction or implosion of the coronal loops. Such a contraction is also observed with EUV imagers to be accompanied by transverse oscillations.

In this work we provide preliminary results on the analysis of observations of coronal loop implosion from the Solar Dynamics Observatory in the framework of a simple physical model.

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