

GAUSSIAN PULSE PROPAGATION IN CORONAL LOOPS

J. A. Guerra¹, C. A. Mendoza-Briceño² and L. Di G. Sigalotti³

¹*Facultad de Ciencias y Tecnología, Departamento de Física,
Universidad de Carabobo, Valencia, Venezuela*

²*Centro de Física Fundamental (CFF), Facultad de Ciencias,
Universidad de Los Andes, Apartado Postal 26, La Hechicera,
Mérida 5251, Venezuela*

³*Instituto Venezolano de Investigaciones Científicas (IVIC),
Apartado 21827, Caracas 1020A, Venezuela*

We study the hydrodynamical evolution of a Gaussian pulse along a magnetic flux tube by means of numerical simulation with VAC (the versatile advection code). In this model, we consider the effects of solar gravity, thermal conduction, viscosity, and radiation losses. We find that viscosity is the major source for damping of the pulse, while thermal conduction plays only a minor role. The implications of the pulse propagation on the generation of small-amplitude standing waves are discussed.