FINAL REPORT

COMPSTAR visit 12/6/2011 - 18/6/2011 to University of Valencia

During my visit at the University of Valencia I collaborated with J. A. Font on a common project regarding the modeling of magneto-elastic oscillations in magnetars. The excitation of such oscillations may play a role in producing the QPOs seen in the X-ray tail of giant bursts in SGRs. Our project is a continuation of our recent letter in MNRAS (http://adsabs.harvard.edu/abs/2011MNRAS.410L..37G). Specifically, we collaborated on the following extensions of our work: We concluded the investigation of a larger number of models than in the above letter, in an attempt to understand the behaviour of magneto-elastic oscillations in the allowed parameter space. Varying the magnetic field strength, we determined precisely the threshold above which magneto-elastic oscillations can break through the solid crust. Furthermore, we worked onthe momentum and energy conservation and investigated in detail the alleged appearance of crustal modes in the gaps of the continuous spectrum. We worked on a paper (with. E. Gable, P. Cerda-Duran and E. Mueller) describing our new results which we just completed and it is going to be submitted in the next few weeks to MNRAS, with acknowledgement of the support by COMPSTAR.

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