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Symulacje numeryczne fal magnetohydrodynamicznych w atmosferze Słońca

We discuss an application of MPI library in massively parallel numerical simulations of magnetosonic waves in a dense and highly magnetised solar coronal slab. Numerical results reveal that wavelet spectra of time-signatures of impulsively excited magnetosonic waves possess characteristic shapes. In a case of sausage waves the wavelet spectra are of a tadpole shape, while for kink waves these spectra attain more complex structures. Parametric studies show that wave periods of the excited waves decline with a pulse amplitude but these wave periods are higher for pulses launched in the ambient medium at a larger distance from the loop. These findings are compatible with the recent theoretical studies and the observations by SECIS.