

## عنوان مقاله:

A study on dust acoustic traveling wave solutions and quasiperiodic route to chaos in nonthermal magnetoplasmas

## محل انتشار:

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## خلاصه مقاله:

Bifurcations and chaotic behaviors of dustacoustic traveling waves in magnetoplasmas with nonthermalions featuring Cairns–Tsallis distribution isinvestigated on the framework of the further modifiedKadomtsev–Petviashvili (FMKP) equation. The FMKPequation is derived employing the reductive perturbationtechnique (RPT). Bifurcations of dust acoustic travelingwaves of the FMKP equation is presented. Using thebifurcation theory of planar dynamical systems, two newanalytical traveling wave solutions for solitary and periodicwaves are derived depending on the parameters  $\alpha$ ,  $\alpha(1)$ ,  $q$ ,  $l$  and  $U$ . Considering an external periodic perturbation, thechaotic behavior of dust acoustic traveling waves isinvestigated through quasiperiodic route to chaos. Theparameter  $q$  significantly affects the chaotic behavior of .theperturbed FMKP equation

## کلمات کلیدی:

Dusty plasma Traveling wave Chaotic behavior Quasiperiodic route to chaos

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/763654>

