

عنوان مقاله:

Self-focusing of a high-intensity laser pulse by a magnetized plasma lens in sub-relativistic regime

محل انتشار:

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تعداد صفحات اصل مقاله: 8

نویسندگان:

Mehdi Etehad Abari - *Young Researchers and Elites Club, Science and Research Branch, Islamic Azad University, Tehran, Iran*

Mahsa Sedaghat - *Young Researchers and Elites Club, Science and Research Branch, Islamic Azad University, Tehran, Iran*

Mohammad Taghi Hosseinnjad - *Young Researchers and Elites Club, Science and Research Branch, Islamic Azad University, Tehran, Iran*

خلاصه مقاله:

Interaction of high power circularly polarized short laser pulses with a cold underdense magnetized thin plasma lens is analyzed in the sub-relativistic regime. The magnetic field is applied along the direction of the laser field propagation. The evolution equation of the beam spot size is derived and solved by making use of the variational principle approach method. The theoretical investigations reveal that not only the magnetized plasma lens more sufficiently decreases the laser spot size, but also the left-handed circularly polarized beam is more effectively focused by a magnetized plasma lens compared to the right-handed circularly polarized beam.

کلمات کلیدی:

Laser plasma interaction Magnetized underdense plasma Variational principal approach method Laser spot size

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