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SYSTEM FOR GENERATING CIRCULAR POLARIZATION IN CASE OF BROAD-BAND LASER BEAMS USING METALLIC MIRRORS

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Abstract

The invention relates to a system for generating circular polarization, in the case of wide band laser beams, such as ultra-short and ultra-intense pulses with Petawatt peak powers, using metallic mirrors. The configuration of these mirrors is such that the output beam is collinear with the input beam.

Advantages

- The system allows for fine tuning of the ellipticity of the output beam
- The system allows for the change in the ratio of the two components (S and P) of the output beam by rotating it around an axis determined by the propagation direction of the incident beam
- The circular polarization of the output beam can be generated for various wavelengths of the input laser beam

- The system allows for the versatility of the experimental setup as the output beam maintains its position and direction with or without the insertion of the three-mirror system

Applications

- Acceleration of particles (electrons, protons, neutrons) by means of high power lasers.

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