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Abstract:A powerful terahertz (THz) pulse was produced by a p-polarized, 70 fs, 800 nm laser interacting with solid targets at an incident angle of 45°. The polarization of the THz emission was measured out of the laser incident plane. The results showed that it was linearly polarized. We established a surface current model to explain this phenomenon, assuming that the transient current moving along the plasma surface was responsible for the generation of the THz emission. The model expectation and the experimental result were in good agreement. © 2012 Science China Press and Springer-Verlag Berlin Heidelberg.
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