421.

Author

Chen, M (Chen, Ming)

Title

FREQUENCY-TUNABLE TERAHERTZ ELECTROMAGNETIC-PULSES GENERATION BASED ON AN OPTICAL FABRY-PEROT MICRORESONATOR WITH VARIABLE BIREFRINGENCE MATERIAL

Source

MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, vol.53, no.12, DEC 2011,1323-1326.
Publisher: 2011 Wiley Periodicals, Inc.

Abstract

A frequency-tunable terahertz (THz)-frequency electromagnetic-pulses generation method is proposed based on an optical Fabry-Perot (FP) microresonator with variable birefringence materials. At the output FP microcavity, polarization mode beat with high-frequency can be achieved due to the phase mismatch effect of the two polarization modes in the birefringence materials in the FP cavity. One can generate frequency-tunable electromagnetic pulse radiation through changing the birefringence of the materials. When the birefringence changed from 3.7355 x 10(-4) to 7.4710 x 10(-2), electromagnetic-pulses with frequencies from 0.05 to 10.0 THz can be obtained.