

ABSTRACT

The present disclosure relates to an external-cavity laser (100) and a tuning method therefor. The external-cavity laser (100) comprises: a gain chip (1) and a tunable reflecting mirror (2). The tunable reflecting mirror (2) comprises: a main waveguide (21), a beam splitter (23), a first branch waveguide (24), a first photonic crystal tuner (26), a second branch waveguide (25), and a second photonic crystal tuner (27). The beam splitter (23) is configured to equally split an optical signal transmitted by the main waveguide (21) into a first-path optical signal (L1) and a second-path optical signal (L2), transmit the first-path optical signal (L1) to the first branch waveguide (24), and transmit the second-path optical signal (L2) to the second branch waveguide (25). The first photonic crystal tuner (26) is configured to tune the first-path optical signal (L1) transmitted by the first branch waveguide (24). The second photonic crystal tuner (27) is configured to tune the second-path optical signal (L2) transmitted by the second branch waveguide (25). According to the external-cavity laser (100), efficient and stable laser emission of the laser can be ensured on the basis of achievement in miniaturization and high-speed direct modulation of the laser.

Fig. 2