

ABSTRACT

Provided in the present disclosure are an optical module (1), a wavelength adaptive coherent optical communication method, and a computer storage medium, the optical module (1) comprising: a local oscillator laser (11), used for outputting local oscillator light; a receiving module (12), used for receiving an input light signal and a local oscillator light signal; a mixing module (13), used for mixing the input light signal and the local oscillator light signal to obtain a beat frequency signal; and a digital signal processing module (15), at least configured to be used for calculating the beat frequency signal frequency and, by means of a feedback control loop (216), adjusting the local oscillator light frequency outputted by the local oscillator laser (11) according to the beat frequency signal frequency. By calculating in real time the beat frequency signal frequency obtained after mixing the local oscillator light signal and the input light signal, the frequency difference between the local oscillator light signal and the input light signal is obtained and the frequency of the local oscillator light signal is adjusted in real time according to the frequency difference, such that the frequency difference between the local oscillator light frequency and the input light signal is kept within a relatively small range, realizing wavelength adaptation and reducing the requirements for the precision and stability of the input optical frequency.

Fig. 1