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(54) Title: SELF-INJECTION OPTICAL TRANSMITTING AND RECEIVING MODULE AND WAVELENGTH DIVISION MULTIPLEXING PASSIVE OPTICAL NETWORK SYSTEM

(54) 发明名称: 自注入光收发模块和波分复用无源光网络系统

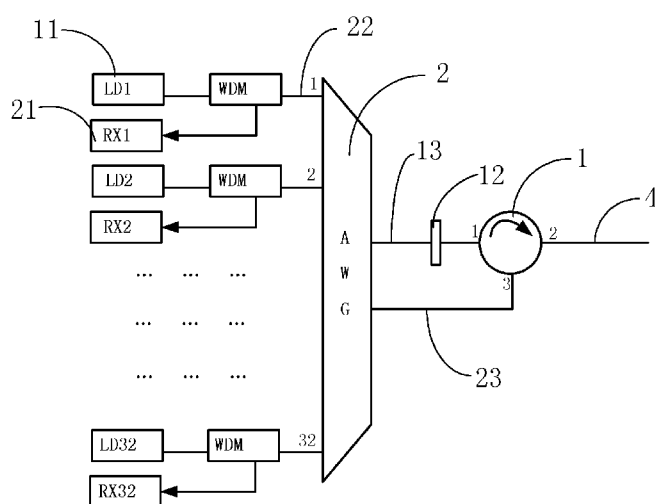


图 3 /Fig.3

(57) Abstract: A self-injection optical transmitting and receiving module and a Wavelength Division Multiplexing Passive Optical Network (WDM-PON) system based on the optical transmitting and receiving module are provided in the embodiments of the present invention. Wherein, said self-injection optical transmitting and receiving module comprises a gain medium, a photo-electronic converter, at least one Arrayed Waveguide Grating (AWG) and a Partial Reflection Mirror (PRM); said at least one AWG comprises two common ports and multiple branch ports, one of said two common ports is regarded as the signal transmitting port, the other is regarded as the signal receiving port, the bandwidth of said signal transmitting port is less than that of said signal receiving port; said gain medium and said photo-electronic converter are connected to the branch ports of said AWG, said AWG and said PRM are used for wavelength self-injection locking for the optical signals provided by said gain medium and the signals are transmitted through said signal transmitting port; and said AWG is also used for de-multiplexing the optical signals received from the signal receiving port into the corresponding branch ports. The embodiments of the present invention can effectively

enhance the performance of the self-injection optical transmitting and receiving module and the WDM-PON system.

(57) 摘要:

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