

Abstract of the Disclosure

OPTICAL FIBER AMPLIFIER WITH FILTER

Disclosed is a fiber amplifier system including a gain fiber having a single-mode core doped with active dopant ions capable of producing stimulated emission of light at wavelength λ_s when pumped with light of wavelength λ_p . Spliced to the gain fiber is a light-attenuating fiber having a core containing a dopant that attenuates light of wavelength λ_p but not λ_s . The amplifier is conventionally employed in a system including an incoming telecommunication fiber for introducing light of wavelength λ_s into an end of the gain fiber, the amplified signal being connected to an outgoing telecommunication fiber. The system further includes a pump source for introducing light of wavelength λ_p into an end of the gain fiber. Elements of the system can be arranged for forward pumping, counter pumping and dual ended pumping.

Various interconnection schemes are disclosed for forming a series arrangement including the gain fiber, the attenuating fiber and the outgoing fiber.

Fig . 1