



- [54] OPTICAL FUNCTIONING GLASS AND APPARATUS USING THE SAME
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[57] ABSTRACT

An optical functioning glass for enabling optical amplification at 1.3- $\mu$ m wavelength band or increasing efficiency of the amplification is disclosed. The optical functioning glass contains Nd<sup>3+</sup> as an active material and uranium, both of which are doped in a multi-component function glass serving as a host glass. Since uranium is doped in the optical functioning glass, light emission of Nd<sup>3+</sup> in the 1.06- $\mu$ m wavelength band can be absorbed by uranium. A decrease in efficiency of induced emission in a 1.3- $\mu$ m wavelength band can be prevented, and an optical functioning glass suitable for optical amplification in the 1.3- $\mu$ m wavelength band can be obtained. When a fiber is formed using the optical functioning glass as a core, a low-threshold, high-gain fiber amplifier, fiber laser, and the like can be obtained.

14 Claims, 8 Drawing Sheets

