

ABSTRACT

5 HETEROSTRUCTURE, INJECTOR LASER,
SEMICONDUCTOR AMPLIFYING ELEMENT AND A
SEMICONDUCTOR OPTICAL AMPLIFIER

10 The heterostructures are used for creation of semiconductor injection emission
sources: injection lasers, semiconductor amplifying elements, semiconductor optical
amplifiers that are used in fiber optic communication and data transmission systems, in
optical superhigh-speed computing and switching systems, in development of medical
equipment, laser industrial equipment, frequency-doubled lasers, and for pumping solid-
state and fiber lasers and amplifiers. The heterostructure, the injection laser, the
15 semiconductor amplifying element, and the semiconductor optical amplifier are
proposed, the essential distinction of which consists in modernization of the active region
and the leak-in region of the heterostructure, combined choice of location, compositions,
refractive indices and thicknesses of the heterostructure layers providing the efficient
functioning of the injection lasers, the semiconductor amplifying elements and the
20 semiconductor optical amplifiers in the transient region of formation of controllable
emission leak from the active layer.

18 claims: 4 n/d claims, 14 d. claims; 10 figures

Selected Drawing: Fig. 3