

LASER AMPLIFIER SYSTEM

ABSTRACT

In order to improve a laser amplifier system (10), comprising a resonator (12) with optical resonator elements (24, 34) which determine a course of a resonator radiation field which propagates along an optical axis and at least one laser-active medium (LM), in such a manner that the configuration of the resonator can be simplified it is suggested that the resonator be designed as a split resonator and have a first resonator section which extends from a first virtual plane of separation (22, 52) and a second resonator section which extends from a second virtual plane of separation (32, 54), that the resonator sections be dimensioned optically such that the resonator radiation field has radiation field states corresponding to the same resonator modes in each of the virtual planes of separation, that an amplifying unit (14, 50) optically independent of the resonator be arranged between the first and the second virtual planes of separation, this amplifying unit comprising the at least one laser-active medium and coupling the radiation field states corresponding to the same resonator modes in a neutral manner with respect to the resonator modes. In one embodiment, the amplifying unit (50) forms a 1:1 telescope.

Figure 4