Bi-doped fibers module

Bi-doped fibers is a new optical material providing possibilities of broadband optical amplif the near IR range where other active fibers doped with Rear Earth elements are inefficient. of core glass composition allows one to obtain luminescence and gain associated with Bismuth active centers (BAC-Al, BAC-P, BAC-Si, BAC-Ge) in several diapasons within the Si(fibers transmission window in the range 1.1-1.8 um.

Each type of BACs have their own absorption, luminescence and gain spectra and require t pump wavelength range. Typically, Bi-doped fibers can be pumped only in the fiber core but possibility of cladding pumping near 0.8 um is also under consideration.

Bi-doped fibers have SiO2 or GeO2-based core and a pure SiO2 cladding thus they can spliced with standard silica-based fibers (SMF-28, Flexcore etc) using standard telecor splicing machines.

There are several possible applications of such active fibers including:
1) Wideband and ultrabroadband fiber telecom systems with wavelength division mu (including dense and course) where bismuth-doped fiber amplifiers (BDFA) help to incre reach and capacity in several times;
2) Widely tunable lasers for various applications including spectroscopy, sensing, metrology
3) Wideband and ultrawideband superfluorescent fiber sources for OCT, telecom etc.
4) Short and Ultrashort pulse fiber lasers in sub-ps, -ps and -ns ranges in diapason 1.1-1. variety of applications including spectroscopy, metrology, sensing etc.

Don't know the parameters? Ask us a question! Ask a question

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