

METHOD FOR EFFICIENTLY PREPARING DOPED OPTICAL FIBRE PREFORM AND DOPED OPTICAL FIBRE PREFORM

ABSTRACT

Provided is a method for efficiently preparing a doped optical fibre preform and a doped optical fibre preform in the field of optical fibre preforms. The steps of the method are as follows: formulating a rare earth material or a functional metal material and a co-doping agent into a doping solution, mixing a high-purity quartz powder with the doping solution, drying same at a temperature of 100°C-150°C for 12-48 hours, crushing and screening the same to obtain a doped quartz powder; depositing the doped quartz powder onto the surface of a target rod to form a doped core layer; replacing the doped quartz powder with the high-purity quartz powder, and depositing the high-purity quartz powder onto the surface of the doped core layer to form a quartz outer cladding; and removing the target rod, and gradually collapsing the entirety formed from the doped core layer and the quartz outer cladding at a high temperature to obtain the doped optical fibre preform. The method is simple in process, can effectively reduce impurity introduction and improve the doping uniformity of optical fibre preforms, and can also remarkably improve the production efficiency of doped optical fiber preforms and reduce the development cost of doped optical fibre preforms.

[FIG. 1]