Accordingly, designs of hollow core optical fibre offering improved low optical loss are of interest.

SUMMARY

Aspects and embodiments are set out in the present disclosure.

According to a first aspect of certain embodiments described herein, there is provided a hollow core optical fibre comprising: a tubular jacket; a cladding comprising a plurality of primary capillaries spaced apart from one another in a ring and each bonded to an inner surface of the jacket at a peripheral location around the circumference of the jacket; and a hollow core formed by a central void within the ring of primary capillaries; wherein the cladding further comprises, within each primary capillary, two secondary capillaries and no more, the two secondary capillaries spaced apart from one another and each bonded to an inner surface of the primary capillary at an azimuthal location around the circumference of the primary capillary which is displaced from the peripheral location of the primary capillary.

According to a second aspect of certain embodiments described herein, there is provided a preform or a cane for making a hollow core optical fibre which is configured to be drawn into a hollow core optical fibre according to the first aspect.

According to a third aspect of certain embodiments described herein, there is provided a preform or a cane for making a hollow core optical fibre, and comprising: an outer tube for forming a jacket; a plurality of primary tubes for forming primary capillaries to define a cladding of the fibre, the primary tubes spaced apart from one another in a ring around a central void to form a hollow core, each primary tube arranged against an inner surface of the outer tube at a peripheral location around the circumference of the outer tube; and within each primary tube, two secondary tubes and no more, the secondary tubes spaced apart from one another and each arranged against an inner surface of the primary tube at an azimuthal location around the circumference of the primary tube which is displaced from the peripheral location of the primary tube.

These and further aspects of certain embodiments are set out in the the present disclosure. It will be appreciated that features of the dependent claims may be combined with each other and features of the independent claims in combinations other than those explicitly set out in the claims. Furthermore, the approach described herein is not restricted to specific embodiments such as set out below, but includes and contemplates any appropriate combinations of features presented herein. For example, optical fibres may be provided in accordance with approaches described herein which includes any one or more of the various features described below as appropriate.