

Coupling system of fiber to fiber

(1/1)

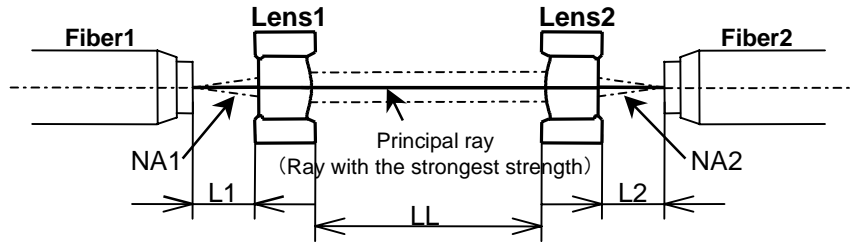
The matter helped in composing various optics systems with a lens is brought together.

It is enumerated that when the coupling system of the fiber to fiber, for example, isolator etc. is composed of two lenses.

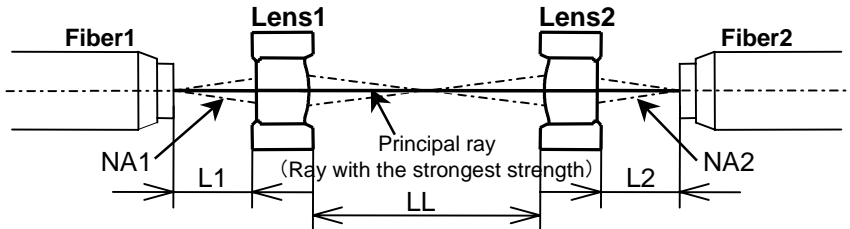
Basic state

As for the fiber to fiber coupling system, two kinds are basically thought.

Parallel ray system



Settling ray system (Cross beam system)



Attention !

In the optics system of the laser beam, strictly speaking, although in rapallel beam there is a settled point (beam waist).

Please confirm material separately about the behavior.

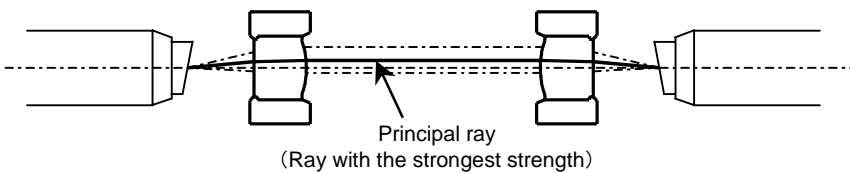
About the adjustment with diagonal cutting fiber

As shown in figure basic state, when the fiber end face is vertical it is undesirable that Fiber1 will receive directly the return light from Fiber2. Therefore it is thought that it is most that diagonal cutting fiber is used.

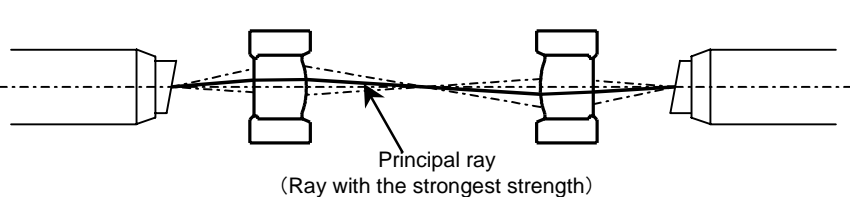
When diagonal cutting fiber is used it is necessarily to consider the adjustment with the direction of cutting and principal ray.

Chiefly two kinds are thought as a composition which uses diagonal cutting fiber.

Parallel ray system



Settling ray system (Cross beam system)



Attention !

Besides, the method of inclining the fiber etc. are thought.

As shown when diagonal cutting fiber is used, the position where a pricipal ray is penetrated shifts from a center axis. Therefore consideration to an effective diameter of the lens is needed.