

Description

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to a two-beam interferometer, which is applied to a Fourier transform infrared spectrophotometer (FTIR) or the like.

Description of the Background Art

A Michelson interferometer, which is formed by two plane mirrors and a beam splitter, is employed as a two-beam interferometer for a Fourier transform infrared spectrophotometer. One of the two plane mirrors is a fixed mirror, and the other one is a moving mirror, which is continuously slidable.

Such a two-beam interferometer is particularly sensitive to change in environmental temperature, vibration, and the like. To this end, a dynamic alignment method utilizing a laser beam is employed as one of means for stabilizing interference conditions. However, the dynamic alignment method tends to disadvantageously complicate an apparatus employed therefor.

In another method, a corner cube is employed in place of a mirror, as an optical system which is resistant against vibration. In a conventional two-beam interferometer, a moving mirror for a Michelson interferometer is formed by a corner cube, which is supported by a mechanical bearing and slid in the horizontal direction.

In another conventional two-beam interferometer, as disclosed in DE-A 37 36 694, two corner cubes are mounted on metal support rods respectively to be obliquely opposite to each other in a plane, and reciprocally rotated in the plane in the opposite state.

In the aforementioned two-beam interferometer using the mechanical bearing, the summits of the corner cube are varied with respect to an optical axis of incident light, to inevitably cause discrepancy of interference conditions.

In the system of rotating the two corner cubes in an opposite state, on the other hand, discrepancy of interference conditions is inevitably caused by assembling conditions for the moving portions.

SUMMARY OF THE INVENTION

An object of the present invention is to provide a two-beam interferometer which is stable against temperature change and disturbance such as vibration, by simplifying adjustment in assembling of an interferometer comprising two opposite corner cubes.

According to the present invention, two corner cubes are integrally formed to be obliquely opposite to each other and to share one mirror surface as a common plane, and the integrated two corner cubes are driven to be reciprocally rotated while unidirectionally maintaining a plane including opposite edges of the corner cubes.

In another aspect of the present invention, two corner cubes are integrally formed to be obliquely opposite to each other and to share two mirror surfaces as common planes, and the integrated two corner cubes are driven to be reciprocally rotated while unidirectionally maintaining a symmetry plane including an edge which is defined by the two common mirror surfaces.

In order to form the inventive two-beam interferometer, a beam splitter is provided in front of the two corner cubes, to reflect a part of incident light and guide the same to one of the corner cubes as well as to transmit the remaining part of the incident light and guide the same to the other corner cube, while causing interference between light components reflected from the two corner cubes.

In order to improve assembling accuracy, the two corner cubes may be manufactured by machining such as cutting or grinding.

When the two corner cubes are rotated in the plane including the opposite edges or the symmetry plane including the edge which is defined by the common two mirror surfaces, optical path difference between two arms of the interferometer is changed. The two corner cubes are continuously reciprocally rotated, to implement a continuous sliding type two-beam interferometer.

Even if the incident light upon the beam splitter is shifted by disturbance such as vibration, the light components reflected from the two corner cubes interfere with each other through the beam splitter.

These and other objects, features, aspects and advantages of the present invention will become more apparent from the following detailed description of the present invention when taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view showing an essential part of a first embodiment of the present invention;

Fig. 2 is a partially fragmented plan view showing mirrors and a driving mechanism of the first embodiment;

Fig. 3 is a left side elevational view of the part shown in Fig. 2;

Fig. 4 is a front elevational view of the part shown in Fig. 2;

Figs. 5 and 6 schematically illustrate the operation of the first embodiment;

Fig. 7 is a perspective view showing an essential part of a second embodiment;

Fig. 8 is a plan view showing a mirror portion of the second embodiment;

Fig. 9 is a front elevational view of the mirror portion shown in Fig. 8; and

Fig. 10 is a left side elevational view of the mirror portion shown in Fig. 9.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Figs. 1 to 4 illustrate a first embodiment of the inventive two-beam interferometer, which employs a double corner cube member 2, dissimilarly to an ordinary Michelson interferometer.

The double corner cube member 2 is assembled by bonding or screwing five cut plane mirrors in all. A first corner cube 4 is formed by plane mirrors 4a, 4b and 6, and a second corner cube 8 is formed by plane mirrors 8a, 8b and 6. The plane mirror 6 is common to the first and second corner cubes 4 and 8.

Adjacent surfaces of the corner cubes 4 and 8 are at right angles to each other, and an error in assembling accuracy from the right angle is within a range of about 2 to 5 seconds (angle). According to the existing technique, it is easy to work the mirrors in such high accuracy.

An edge 10 which is defined by the two mirror surfaces 4a and 4b of the first corner cube 4 and an edge 12 which is defined by the two mirror surfaces 8a and 8b of the second corner cube 8 are parallel to each other, while an end of a connecting rod 16 is screwed on a back surface of the mirror surface 6, which is common to the two corner cubes 4 and 8, in a plane 14 including the two edges 10 and 12. A rotary bearing 18 is embedded in the connecting rod 16 to be rotatable in the plane 14 (horizontal plane in this embodiment) including the two edges 10 and 12, whereby the two corner cubes 4 and 8 can be freely rotated while maintaining the plane 14 at the same position.

A movable portion 20 of a linear motor is screwed on the other end of the connecting rod 16, and a coil 22 is wound on the movable portion 20. This movable portion 20 is combined with a stator 24 of the linear motor. A current is fed to the coil 22 to cause Lorentz's force between the stator 24 and the movable portion 20, whereby the movable portion 20 is reciprocated in a limited range. This reciprocation rotates the connecting rod 16 about the rotary bearing 18 in a reciprocative manner, as shown in Fig. 2 by an arrow.

As shown in Fig. 1, a beam splitter 26 and a compensator 28 are provided in front of a central portion of the double corner cube member 2, in order to form an interferometer. A part 32 of an incident ray 30 is reflected by the beam splitter 26 to be incident upon the first corner cube 4, and reflected by the first corner cube 4 to be again incident upon the beam splitter 26. In the incident ray 30, a ray 34 transmitted through the beam splitter 26 is incident upon the second corner cube 8, and reflected by the second corner cube 8 to be again incident upon the beam splitter 26. The rays reflected from the corner cubes 4 and 8 form interferent light 36, which is guided to a sample chamber.

The operation of this embodiment is now described.

Fig. 5 shows such a state that no optical path difference is caused between two arms of the interferometer. On the other hand, Fig. 6 shows such a state that the double corner cube member 2 (corner cubes 4 and 8) is rotated about the rotary bearing 18, to cause optical path difference between the two arms. Due to such reciprocative rotation movement about the rotary bearing 18, a continuous sliding type two-beam interferometer is defined. Figs. 5 and 6 are two-dimensional model diagrams.

Fig. 5 also shows shifting of the incident ray 30 which is caused by disturbance such as vibration. Also in this case, interferent light can be stably obtained by virtue of the corner cubes 4 and 8.

A second embodiment of the present invention is now described with reference to Figs. 7 to 10.

A double corner cube member 42 is assembled by four cut plane mirrors in all. A first corner cube 44 is formed by plane mirrors 45, 46 and 47, and a second corner cube 49 is formed by plane mirrors 46, 47 and 48. The plane mirrors 46 and 47, which are common to the first and second corner cubes 44 and 49, are perpendicular to each other. Both the plane mirrors 45 and 48 are perpendicular to the common plane mirrors 46 and 47. A connecting rod 56 is mounted on back surfaces of the two plane mirrors 46 and 47 in a vertical symmetry plane 54 including an edge 50 which is defined by the two common plane mirrors 46 and 47. A rotary bearing 58 is embedded in the connecting rod 56, so that the double corner cube member 42 is rotatable in the symmetry plane 54 (horizontal plane in this embodiment). Thus, the two corner cubes 44 and 49 can be freely rotated about the rotary bearing 58, while maintaining the plane 54 in the same position.

The connecting rod 56 is provided on its other end with the same driving mechanism as that shown in Figs. 2 and 3.

As shown in Fig. 7, a beam splitter 26 and a compensator 28 are provided in front of a central portion of the double corner cube member 42, to form an interferometer.

The operation of the interferometer according to the embodiment shown in Fig. 7 is identical to that of the embodiment shown in Fig. 1.

While the double corner cube member 2 is assembled by five cut plane mirrors in the first embodiment and the double corner cube member 42 is assembled by four cut plane mirrors in the second embodiment, it is also possible to manufacture an integrated double corner cube by cutting a single base material. Such a method of cutting a single base material requires no assembling step, and reduces individual difference.

Although the plane including the opposite edges of the two corner cubes or the symmetry plane including the edge defined by the two common mirror surfaces is horizontally arranged in each of the embodiment, such a plane may not necessarily be maintained in the horizontal state but may be arranged along any arbitrary direction such as a vertical direction.

Further, although the connecting rod 16 or 56 is provided in the plane 14 including the opposite edges 10 and 12 or the plane 54 including the edge 50, such a connecting rod 16 or 56 may be provided in a plane which is parallel to the plane 14 or 54.

According to the present invention, two mirror groups are integrally formed by oppositely arranging two corner cubes to share one or two mirror surfaces in common, and reciprocative rotation movement is made in a plane including two opposite edges or a symmetry plane including an edge defined by the two common mirror surfaces, whereby a moving mechanism may simply cause reciprocative rotation movement about one center of rotation, and adjustment in assembling is extremely simple and easy. Thus, the two-beam interferometer can be manufactured at a low cost.

Since the double corner cube member can be formed of the same material, the interferometer is stable against temperature change. Further, the inventive interferometer is also stable against disturbance such as vibration.

When plane mirrors for forming corner cubes are manufactured by machining such as cutting or grinding, it is possible to assemble and work the interferometer in high accuracy.

The invention may be embodied in other specific forms without departing from the essential characteristics thereof. The present embodiments are therefore to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims.

Claims

1. A two-beam interferometer comprising two corner cubes (4, 8) which are reciprocatively rotated in a plane (14) including opposite edges (10, 12) of the cubes, and a beam splitter (26) provided for transmitting one part of a beam to one (8) of said corner cubes and for guiding via reflectance another part of said beam onto the other (4) of said corner cubes which causes interference between said two partial beams, characterized in that said two corner cubes (4, 8) are integrally formed to be obliquely opposite to each other and to share one mirror surface (6) as a common plane.
2. A two-beam interferometer in accordance with claim 1, characterized in that said two corner cubes (4, 8) are formed by assembling cut plane mirrors manufactured by machining.
3. A two-beam interferometer in accordance with claim 2, characterized in that adjacent surfaces (4a, 4b and 8a, 8b) of said corner cubes (4, 8) are at right angles to each other and an error in assembling accuracy from the right angle is within five seconds in each of said corner cubes.
4. A two-beam interferometer in accordance with claim 1, characterized in that said two corner cubes (4, 8) are manufactured in the form of an integrated corner cube member by cutting a single base material.
5. A two-beam interferometer in accordance with claim 1, characterized in that an end of a connecting rod (16) is mounted on a back surface of said common mirror surface (6) in the plane (14) including opposite edges (10, 12) of said two corner cubes (4, 8) or a plane which is parallel thereto in order to rotatingly drive said two corner cubes (4, 8) while a driving source (22, 24) is mounted on the other end of said connecting rod (16), and a center of rotation is provided at the central portion of said connecting rod (16).
6. A two-beam interferometer in accordance with claim 5, characterized in that said driving source (22, 24) is a linear motor.
7. A two-beam interferometer comprising two corner cubes (44, 49) which are reciprocatively rotated in a plane (54), and a beam splitter (26) provided for transmitting one part of a beam to one (49) of said corner cubes and for guiding via reflectance another part of said beam onto

As shown in Fig. 7, a beam splitter 26 and a compensator 28 are provided in front of a central portion of the double corner cube member 42, to form an interferometer.

The operation of the interferometer according to the embodiment shown in Fig. 7 is identical to that of the embodiment shown in Fig. 1.

While the double corner cube member 2 is assembled by five cut plane mirrors in the first embodiment and the double corner cube member 42 is assembled by four cut plane mirrors in the second embodiment, it is also possible to manufacture an integrated double corner cube by cutting a single base material. Such a method of cutting a single base material requires no assembling step, and reduces individual difference.

Although the plane including the opposite edges of the two corner cubes or the symmetry plane including the edge defined by the two common mirror surfaces is horizontally arranged in each of the embodiment, such a plane may not necessarily be maintained in the horizontal state but may be arranged along any arbitrary direction such as a vertical direction.

Further, although the connecting rod 16 or 56 is provided in the plane 14 including the opposite edges 10 and 12 or the plane 54 including the edge 50, such a connecting rod 16 or 56 may be provided in a plane which is parallel to the plane 14 or 54.

According to the present invention, two mirror groups are integrally formed by oppositely arranging two corner cubes to share one or two mirror surfaces in common, and reciprocative rotation movement is made in a plane including two opposite edges or a symmetry plane including an edge defined by the two common mirror surfaces, whereby a moving mechanism may simply cause reciprocative rotation movement about one center of rotation, and adjustment in assembling is extremely simple and easy. Thus, the two-beam interferometer can be manufactured at a low cost.

Since the double corner cube member can be formed of the same material, the interferometer is stable against temperature change. Further, the inventive interferometer is also stable against disturbance such as vibration.

When plane mirrors for forming corner cubes are manufactured by machining such as cutting or grinding, it is possible to assemble and work the interferometer in high accuracy.

The invention may be embodied in other specific forms without departing from the essential characteristics thereof. The present embodiments are therefore to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims.

Claims

1. A two-beam interferometer comprising two corner cubes (4, 8) which are reciprocatively rotated in a plane (14) including opposite edges (10, 12) of the cubes, and a beam splitter (26) provided for transmitting one part of a beam to one (8) of said corner cubes and for guiding via reflectance another part of said beam onto the other (4) of said corner cubes which causes interference between said two partial beams, characterized in that said two corner cubes (4, 8) are integrally formed to be obliquely opposite to each other and to share one mirror surface (6) as a common plane.
2. A two-beam interferometer in accordance with claim 1, characterized in that said two corner cubes (4, 8) are formed by assembling cut plane mirrors manufactured by machining.
3. A two-beam interferometer in accordance with claim 2, characterized in that adjacent surfaces (4a, 4b and 8a, 8b) of said corner cubes (4, 8) are at right angles to each other and an error in assembling accuracy from the right angle is within five seconds in each of said corner cubes.
4. A two-beam interferometer in accordance with claim 1, characterized in that said two corner cubes (4, 8) are manufactured in the form of an integrated corner cube member by cutting a single base material.
5. A two-beam interferometer in accordance with claim 1, characterized in that an end of a connecting rod (16) is mounted on a back surface of said common mirror surface (6) in the plane (14) including opposite edges (10, 12) of said two corner cubes (4, 8) or a plane which is parallel thereto in order to rotatably drive said two corner cubes (4, 8) while a driving source (22, 24) is mounted on the other end of said connecting rod (16), and a center of rotation is provided at the central portion of said connecting rod (16).
6. A two-beam interferometer in accordance with claim 5, characterized in that said driving source (22, 24) is a linear motor.
7. A two-beam interferometer comprising two corner cubes (44, 49) which are reciprocatively rotated in a plane (54), and a beam splitter (26) provided for transmitting one part of a beam to one (49) of said corner cubes and for guiding via reflectance another part of said beam onto



the other (44) of said corner cubes which causes interference between said two partial beams, characterized in that said two corner cubes (44, 49) are integrally formed to be obliquely opposite to each other and to share two mirror surfaces (46, 47) as common planes, and said plane (54) in which the cubes are rotated is a symmetry plane including an edge (50) defined by said common two mirror surfaces (46, 47).

8. A two-beam interferometer in accordance with claim 7, wherein said two corner cubes (44, 49) are formed by assembling cut plane mirrors manufactured by machining.

9. A two-beam interferometer in accordance with claim 7, wherein adjacent surfaces (45, 46, 47 and 46, 47, 48) of said corner cubes (44, 49) are at right angles to each other and error in assembling accuracy from the right angle is within 5 seconds in each of said corner cubes.

10. A two-beam interferometer in accordance with claim 7, characterized in that said two corner cubes (44, 49) are manufactured in the form of an integrated corner cube member by cutting a single base material.

11. A two-beam interferometer in accordance with claim 7, characterized in that an end of a connecting rod (56) is mounted on back surfaces of said common mirror surfaces (46, 47) in the symmetry plane (54) including the edge (50) defined by the common two mirror surfaces (46, 47) or a plane which is parallel thereto in order to rotatably drive said two corner cubes (44, 49), while a driving source is mounted on the other end of said connecting rod (56), and a center of rotation is provided at the central portion of said connecting rod (56).

12. A two-beam interferometer in accordance with claim 11, characterized in that said driving source is a linear motor.

Patentansprüche

1. Zweistrahl-Interferometer mit zwei Eckwürfeln (4, 8) die in einer Ebene (14) hin und her gedreht werden, welche einander gegenüberliegende Kanten (10, 12) der Würfel enthält, und einem Strahlteiler (26), der dafür vorgesehen ist, einen Teil eines Strahles zu einem (8) der Eckwürfel durchzulassen und einen anderen Teil des Strahles durch Reflexion auf den anderen (4) der Eckwürfel zu führen, was Interferenz zwischen den beiden Teilstrahlen be-

wirkt, dadurch gekennzeichnet, daß die beiden Eckwürfel (4, 8) einteilig geformt sind, so daß sie einander schräg gegenüberstehen und eine Spiegelfläche (6) als eine gemeinsame Ebene haben.

2. Zweistrahl-Interferometer nach Anspruch 1, dadurch gekennzeichnet, daß die beiden Eckwürfel (4, 8) gebildet sind, indem geschnittene ebene Spiegel zusammengesetzt werden, die durch Bearbeiten hergestellt sind.

3. Zweistrahl-Interferometer nach Anspruch 2, dadurch gekennzeichnet, daß benachbarte Flächen (4a, 4b und 8a, 8b) der Eckwürfel (4, 8) unter rechten Winkeln zueinander stehen und ein Fehler bei der Zusammengenauigkeit als Abweichung von dem rechten Winkel innerhalb von fünf Sekunden bei jedem der Eckwürfel liegt.

4. Zweistrahl-Interferometer nach Anspruch 1, dadurch gekennzeichnet, daß die beiden Eckwürfel (4, 8) in der Form eines einteiligen Eckwürfelementes hergestellt ist, indem ein einziges Basismaterial geschnitten wird.

5. Zweistrahl-Interferometer nach Anspruch 1, dadurch gekennzeichnet, daß ein Ende einer Verbindungsstange (16) auf einer Rückfläche der gemeinsamen Spiegelfläche (6) in der Ebene (14) angebracht ist, die gegenüberliegende Kanten (10, 12) der beiden Eckwürfel (4, 8) enthält, oder in einer Ebene, die parallel dazu liegt, um die beiden Eckwürfel (4, 8) drehend anzutreiben, während eine Antriebsquelle (22, 24) an dem anderen Ende der Verbindungsstange (16) angebracht ist, und ein Drehzentrum am Mittelabschnitt der Verbindungsstange (16) vorgesehen ist.

6. Zweistrahl-Interferometer nach Anspruch 5, dadurch gekennzeichnet, daß die Antriebsquelle (22, 24) ein Linearmotor ist.

7. Zweistrahl-Interferometer mit zwei Eckwürfeln (44, 49), die in einer Ebene (54) hin und her gedreht werden, und einem Strahlteiler (26), der dafür vorgesehen ist, einen Teil eines Strahles zu einem (49) der Eckwürfel durchzulassen und einen anderen Teil des Strahles auf den anderen (44) der Eckwürfel durch Reflexion zu führen, was Interferenz zwischen den beiden Teilstrahlen bewirkt, dadurch gekennzeichnet, daß die beiden Eckwürfel (44, 49) einteilig ausgebildet sind, so daß sie einander schräg gegenüber stehen und zwei Spiegelflächen (46, 47) als gemeinsame Ebenen haben,



und daß die Ebene (54), in der die Würfel gedreht werden, eine Symmetrieebene ist, welche eine Kante (50) einschließt, die durch die beiden gemeinsamen Spiegelflächen (46, 47) definiert ist.

8. Zweistrahl-Interferometer nach Anspruch 7, bei dem die beiden Eckwürfel (44, 49) gebildet werden, indem geschnittene ebene Flächen, durch Bearbeiten hergestellt, zusammengesetzt werden.
9. Zweistrahl-Interferometer nach Anspruch 7, bei dem benachbarte Flächen (45, 46, 47 und 46, 47, 48) der Eckwürfel (44, 49) unter rechten Winkeln zueinander stehen und der Fehler bei der Zusammenbaugenaugigkeit in Abweichung von dem rechten Winkel innerhalb von fünf Sekunden bei jedem der Eckwürfel liegt.
10. Zweistrahl-Interferometer nach Anspruch 7, dadurch gekennzeichnet, daß die beiden Eckwürfel (44, 49) in der Form eines einteiligen Eckwürfelements durch Schneiden eines einzigen Basismaterials hergestellt sind.
11. Zweistrahl-Interferometer nach Anspruch 7, dadurch gekennzeichnet, daß ein Ende einer Verbindungsstange (56) auf den Rückflächen der gemeinsamen Spiegelflächen (46, 47) in der Symmetrieebene (54) angebracht ist, die die Kante (50) enthält, welche durch die beiden gemeinsamen Spiegelflächen (46, 47) definiert ist, oder in einer Ebene, die parallel dazu liegt, um die beiden Eckwürfel (44, 49) drehend anzutreiben, während eine Antriebsquelle an dem anderen Ende der Verbindungsstange (56) angebracht ist, und ein Drehzentrum an dem Mittelabschnitt der Verbindungsstange (56) vorgesehen ist.
12. Zweistrahl-Interferometer nach Anspruch 11, dadurch gekennzeichnet, daß die Antriebsquelle ein Linearmotor ist.

Revendications

1. Interféromètre à double faisceau comprenant deux coins de cube (4,8) qui sont soumis à une rotation alternative dans un plan (14) contenant des arêtes opposées (10,12) des coins de cube, et un diviseur de faisceau (26) prévu pour transmettre une partie d'un faisceau à l'un (8) des coins de cube et conduire par réflectance une autre partie de ce faisceau à l'autre (4) des coins de cube, ce qui produit une interférence entre les deux faisceaux partiels, caractérisé par le fait que les deux coins

de cube (4,8) forment un seul bloc, sont opposés obliquement l'un à l'autre et ont une surface miroir (6) comme plan commun.

2. Interféromètre à double faisceau selon la revendication 1, caractérisé par le fait que les deux coins de cube (4,8) sont formés par assemblage de miroirs plans taillés fabriqués par usinage.
3. Interféromètre à double faisceau selon la revendication 2, caractérisé par le fait que des faces adjacentes (4a,4b et 8a,8b) des coins de cube (4,8) sont à angle droit l'une de l'autre et l'écart dans la précision d'assemblage par rapport à l'angle droit est d'au plus cinq secondes d'angle dans chacun des coins de cube.
4. Interféromètre à double faisceau selon la revendication 1, caractérisé par le fait que les deux coins de cube (4,8) sont fabriqués sous la forme d'un élément monolithique par taille d'un seul matériau de base.
5. Interféromètre à double faisceau selon la revendication 1, caractérisé par le fait qu'une extrémité d'une barre de liaison (16) est montée sur la face arrière de la surface miroir commune (6) dans le plan (14) contenant les arêtes opposées (10,12) des deux coins de cube (4,8) ou dans un plan parallèle à celui-ci afin de faire tourner les deux coins de cube (4,8), tandis qu'une source motrice (22,24) est montée sur l'autre extrémité de cette barre de liaison (16), et un axe de rotation est prévu dans la partie centrale de cette barre de liaison (16).
6. Interféromètre à double faisceau selon la revendication 5, caractérisé par le fait que la source motrice (22,24) est un moteur linéaire.
7. Interféromètre à double faisceau comprenant deux coins de cube (44,49) qui sont soumis à une rotation alternative dans un plan (54), et un diviseur de faisceau (26) prévu pour transmettre une partie d'un faisceau à l'un (49) des coins de cube et conduire par réflectance une autre partie de ce faisceau à l'autre (44) des coins de cube, ce qui produit une interférence entre les deux faisceaux parties, caractérisé par le fait que les deux coins de cube (44,49) forment un seul bloc, sont opposés obliquement l'un à l'autre et ont deux surfaces miroirs (46,47) comme plans communs, et le plan (54) dans lequel les coins de cube sont soumis à rotation est un plan de symétrie contenant une arête (50) formant la limite des deux surfaces



miroirs communes (46,47).

8. Interféromètre à double faisceau selon la revendication 7, dans lequel les deux coins de cube (44,49) sont formés par assemblage de miroirs plans taillés fabriqués par usinage. 5
9. Interféromètre à double faisceau selon la revendication 7, dans lequel les faces adjacentes (45,46,47 et 46,47,48) des coins de cube (44,49) sont à angle droit les unes des autres et l'écart dans la précision d'assemblage par rapport à l'angle droit est d'au plus cinq secondes dans chacun des coins de cube. 10
10. Interféromètre à double faisceau selon la revendication 7, caractérisé par le fait que les deux coins de cube (44,49) sont fabriqués sous la forme d'un élément monolithique par taille d'un seul matériau de base. 15 20
11. Interféromètre à double faisceau selon la revendication 7, caractérisé par le fait qu'une extrémité d'une barre de liaison (56) est montée sur les faces arrière des surfaces miroirs communes (46,47) dans le plan de symétrie (54) contenant l'arête formant la limite des deux surfaces miroirs communes (46,47) ou dans un plan parallèle à celui-ci afin de faire tourner les deux coins de cube (44,49), tandis qu'une source motrice est montée sur l'autre extrémité de cette barre de liaison (56), et un axe de rotation est prévu dans la partie centrale de cette barre de liaison (56). 25 30 35
12. Interféromètre à double faisceau selon la revendication 11, caractérisé par le fait que la source motrice est un moteur linéaire. 40

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