smoothly between the first side surface and the inner side surface of the sample injection portion.

[0017] Although arrangement features in regard to the first cap were described above, the same arrangement may also be adopted in the second cap that is mounted on the sample extraction portion.

[0018] Threads may be formed between the sample injection portion and the first cap, and in this case, the fitting force can be strengthened and the formation of bubbles during sample injection can be suppressed.

[0019] Threads may be formed between the sample extraction portion and the second cap.

[0020] By forming the two electrodes inside the container so as to be integral to the container, the trouble of assembling the electrodes described in regard to the background art is eliminated and an integral electrode type cell that is fully disposable can be arranged.

[0021] An electrophoretic mobility measurement method according to the present invention is a method in which a profile of central frequencies of heterodyne spectra is measured while changing the distance from a wall of the internal space, a parabola is fitted to the profile, a stationary plane inside the internal space at which the electroosmotic flow velocity is zero is specified, and the true migration velocity, based on an applied electric field, of the particles at the stationary plane is determined.

[0022] An electrophoretic mobility measurement apparatus according to the present invention includes the electrophoretic mobility measurement cell described above, an electric field applying means applying an electric field to the electrodes of the electrophoretic mobility measurement cell, a light source, an optical path splitting means splitting the light from the light source, a focusing means focusing one of the lights, resulting from the splitting by the optical path splitting means, onto the sample solution, an automatic stage moving means for moving the focal position, a phase modulating means performing phase modulation on the other light resulting from the splitting by the optical path splitting means, a spectrum measuring means receiving an interference light of the phase-modulated reference light and scattered light emitted from the sample solution and measuring a spectrum of the interference light, and an analyzing means calculating the electrophoretic mobility of the particles based on the interference light spectrum measured by the spectrum measuring means.

[0023] With the electrophoretic mobility measurement cell according to the present invention, mixing in of bubbles and repeated use of electrodes, which were the problems of conventional disposable cells, are eliminated and the shape of the sample injection port is made a tapered shape to suppress the formation of bubbles into the cell.

[0024] The above and other advantages, features, and effects of the present invention shall be made clear by the following description of the preferred embodiment made with reference to the attached drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0025] FIG. **1** is a plan view of an electrophoretic mobility measurement apparatus for measuring electrophoretic mobility by the present invention.

[0026] FIG. **2** is a flowchart for describing a procedure for calculating the electrophoretic mobility.

[0027] FIG. **3** is a graph with a z-coordinate of a measurement point as the ordinate and frequency as the abscissa and in which a set of heterodyne spectra of interference light is plotted.

[0028] FIG. **4** is a graph with the z-coordinate of a measurement point as the ordinate and the frequency as the abscissa and in which a set of heterodyne spectra is plotted.

[0029] FIG. **5**A is a plan view of a structure of a sample cell container.

[0030] FIG. **5**B is a sectional front view of the structure of the sample cell container.

[0031] FIG. **5**C is a side view (C) of the structure of the sample cell container.

[0032] FIG. **6** is a perspective view of a shape of a cap that covers an injection portion or an extraction portion.

[0033] FIG. **7** is a perspective view of a micropipette and the sample cell container for describing a method of using the sample cell container.

[0034] FIG. **8** is a perspective view of a cap that is tapered at a side surface portion and has a thread groove (male thread) formed thereon.

[0035] FIG. **9** is a sectional view of a modified shape of an electrode.

[0036] FIG. **10** is a diagram of an electroosmosis phenomenon inside a conventional sample cell container.

DETAILED DESCRIPTION OF THE INVENTION

[0037] A preferred embodiment of the present invention shall now be described in detail with reference to the attached drawings.

[0038] FIG. **1** is a plan view of an electrophoretic mobility measurement apparatus for measuring electrophoretic mobility by the present invention. The measurement apparatus includes a transparent sample cell container C, a DC power supply **32** applying an electric field to the sample cell container C, a light emitting source **1** for irradiating light onto a sample solution, which is confined in a rectangular parallelepiped internal space (chamber) **11** formed in the interior of the sample cell container C and in which sample particles are dispersed, a photodetector **6** for detecting scattered light emitted from an irradiated point of the sample solution, a modulator **7** for imparting a Doppler shift based on a branched light among the light irradiated from the light emitting source **1**, and a movable stage **9** for moving the sample cell container C in any direction within an x-y plane (horizontal plane) and in a z-direction perpendicular to the x-y plane.

[0039] For example, a laser diode is used as the light emitting source **1** of the electrophoretic mobility measurement apparatus. The light of the laser diode is made incident on a half-mirror **2** and split into two lights by the half-mirror **2**. One light (hereinafter referred to as the "sample light") among the lights resulting from the splitting is reflected by a mirror **3**, focused by a lens **4**, and made incident on the sample solution inside the internal space **11** of the sample cell container C. Scattered light from the sample solution passes through a half-mirror **5** and is detected by the photodetector **6**. For example, a photomultiplier is used as the photodetector **6**. The movable stage **9** includes a moving mechanism that moves the sample cell container C and is capable of automatically moving the focal point of the laser light to a measurement point, input in advance, of the sample solution in the sample cell container C.

[0040] The other light resulting from the splitting by the half-mirror **2** is referred as the "reference light." The refer-