BRIEF DESCRIPTION OF DRAWINGS

FIG. **1** is the block diagram showing the principle of the present invention.

FIG. **2** is the schematic drawing of the leading-out for the saw teeth electrode bonded with epoxy resin and conducting glue.

FIG. **3** is the schematic drawing of the leading-out for the saw teeth electrode fastened with mechanical means.

BEST MODE FOR CARRYING OUT THE INVENTION

As shown in FIG. **1**, the device of the present invention comprises basic component parts of an electron supermicroemitter **1**, a power supply **2**, a casing **3**, and a controller **4**. Other parts can be added according to the usage and device, such as multi-functions carriage or turntable. The present invention can also be combined with other device to form a new equipment with new functions, with its control device compatible with other parts of the control equipment.

According to the purpose of application and the function of product, the electron supermicroemitter can be a single electrode, multiple electrodes or a combination electrode. The device casing can be designed as one with totally different shape, function and configuration, as the potential of the electron supermicroemitter to the ground is controlled in the range of −2 kV to −29 kV, depending on its structure, dimension, shape and material, and purpose of application.

As shown in FIG. **2**, epoxy resin and conducting glue are used to fix and leading-out the electrode. Saw teeth electrode **8** is bonded underneath to the insulator **6** by epoxy resin **7**, and leading-out wire is made of a conductor **5** bonded to one end of the electrode **8** with conducting glue **9**.

As shown in FIG. **3**, mechanical means is used to fasten and leading-out the electrode. Saw teeth electrode **8** is fastened with an insulator **6** by a clamp **10** and a rivet **11**. Leading-out wire **5** is fastened with the clamp **10** and the rivet **11**.

The invention claimed is:

1. A device for generating negatively charged nanoparticles, which is comprised of a power supply, a casing, a controller and an electron-emitter, the power supply is connected with the electron-emitter and the controller respectively; characterized in that the electron-emitter is an electron supermicroemitter, dimensions of an emitting part of the electron supermicroemitter being smaller than or equal to a micron level; there is only one electrode with one potential in the electron supermicroemitter; the electron supermicroemitter emits electrons by means of tunneling effect, and the emitted electrons combine with the nanoparticles in air to form negatively charged nanoparticles; the potential of the electron supermicroemitter to the ground is controlled in a range of −2 kV to −29 kV.

2. The device as claimed in claim **1**, characterized in that the electron supermicroemitter is comprised of a single or multiple electrodes, a shape of the electrode is any one or combination of the shapes selected from the group consisting of disk, cylinder, saw teeth, needle, sharp-ended, sphere, spheroid, arc, ring, and bar.

3. The device as claimed in claim **1**, characterized in that the electron supermicroemitter is made of platinum, gold, rhenium, iridium, tungsten or carbon fiber or their combination or an alloy with platinum, gold, rhenium, iridium and/or tungsten as a main component.

4. The device as claimed in claim **1**, characterized in that the electron supermicroemitter is made according to one of the following methods:

a) platinum, gold, or carbon fiber filament is fixed on a glass carriage by a soldering method, a leading-out end is made by bonding platinum, gold, or carbon fiber filament to copper wire with conducting glue, platinum wire can also be connected with copper wire by indium melted at a low temperature;

b) platinum, gold, rhenium, tungsten, iridium or carbon fiber filament is bonded and sealed in a carriage made of insulators of quartz, glass, PE, PTFE, polyester fiber, silicon nitride, and/or alumina (porcelain) with epoxy resin adhesive, the leading-out end is made by bonding platinum, gold, rhenium, tungsten, iridium or carbon fiber to copper wire with conducting glue;

c) platinum, gold, rhenium, tungsten, iridium or carbon fiber filament is arranged on the surface of an insulator made of quartz, glass, PE, PTFE, polyester fiber, silicon nitride and/or alumina in a required shape, it is then fixed and bonded with adhesive, platinum, gold, rhenium, tungsten, iridium or carbon filament is bonded to copper wire with conducting glue as leading-out end;

d) rhenium, tungsten or their corresponding alloy is made into electron supermicroemitters of various shapes by electrolytic corrosion, the said electron supermicroemitter is fixed on an insulator carriage with epoxy resin or riveted on insulator carriage by mechanical means, the insulator can be any one of quartz, glass, PE, PTFE, silicon nitride, alumina, polyester composite plate, the leading-out end can be bonded to conductor with conducting glue, or a lead conductor and electrode can be fixed on insulator at the same time by mechanical means, such method likewise applies to a sharp-ended and needle electrode; or

e) photoetching is utilized to make electron supermicroemitter: a uniform metallic film is coated on an insulator plate by spraying or sputtering, the metallic film can be platinum, gold, iridium, a photosensitive polymer film of polyimide is coated the metallic film and photoetching is carried out to form electrode of a required shape, a matrix material of the electrode can be any one of Si/SiO_2, quartz, glass, silicon nitride, leading-out wire is made by bonding electrode to copper wire with conducting glue.

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