

ABSTRACT

A bipolar ionizer for air purification and a diffuser using the bipolar ionizer

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The present invention relates to an ionizer, and in particular to an alternating bipolar ionizer for air purification. It is a plate-type structure consisting of a substrate with a thermally conductive sheet, a porous emitter plate, a dielectric barrier plate, and a porous ground plate with ion extraction mechanism, all of which are stacked together in sequence. According to the above technical solution, the ground plate and the emitter plate with the ion extraction structure form an electric field with a precise size, and the electrons of the emitter plate are led out of the dielectric barrier plate on a grounding side of the electric field. A part of the electrons meets the ground plate and flows into the ground plate to form a current, and a part of the electrons escapes and meets the indoor air molecules. When the escaped electrons reach a certain rate, the oxygen molecules can be excited, converting them to ionic state, and the air quality is improved. When AC high-voltage current is input, the bipolar ions are generated alternately, so that a bipolar ionized gas flow can be injected into the air to effectively improve the air quality.