

ABSTRACT

One of the urgent need for human today is the availability of clean air that is useful to support health. Currently the clean air is a rare thing in town-big cities like Jakarta. Particles in airborn came from motor vehicle fumes, industrial chimneys, dust, and cigarette makes air become less clean.

By making the design of high voltage DC, will be designed a high voltage DC to be able to precipitate dust electrostatically. Design tools include making the dust settling high Voltage Direct Current using the method of Cockcroft-Walton voltage multiplier circuit on open state/not loaded, the selection of aluminum for the filter and selection tools such as acrylic, motor dc fan 12v and its source voltage of 12 VDC.

This final project produced a tool that can precipitate the dust by using a method electrostatic filters. The resulting electrostatic voltage of about 4000 volts on an aluminium plate as a medium of electricity. Aluminum plate aligned and fed different dc voltage polarity of each one so that there will be attractive forces between them. Folding consists of fourteen voltage capacitors and 35 diodes and step-up transformer that converts into a 600v voltage of 220 V with a source voltage of the grid pln at 220 V and 50 hz.

Keywords: *voltage multiplier, precipitator dust, Electrostatic*