

Musical Tesla Coil Controlled by an Audio Signal Processed in Matlab

Authors : Sandra Cuenca, Danilo Santana, Anderson Reyes

Abstract : The following project is based on the manipulation of audio signals through the Matlab software, which has an audio signal that is modified, and its resultant obtained through the auxiliary port of the computer is passed through a signal amplifier whose amplified signal is connected to a tesla coil which has a behavior like a vumeter, the flashes at the output of the tesla coil increase and decrease its intensity depending on the audio signal in the computer and also the voltage source from which it is sent. The amplified signal then passes to the tesla coil being shown in the plasma sphere with the respective flashes; this activation is given through the specified parameters that we want to give in the MATLAB algorithm that contains the digital filters for the manipulation of our audio signal sent to the tesla coil to be displayed in a plasma sphere with flashes of the combination of colors commonly pink and purple that varies according to the tone of the song.

Keywords : auxiliary port, tesla coil, vumeter, plasma sphere

Conference Title : ICASSP 2024 : International Conference on Acoustics, Speech and Signal Processing

Conference Location : Bogota, Colombia

Conference Dates : February 12-13, 2024