

Voice Signal Processing and Coding in MATLAB Generating a Plasma Signal in a Tesla Coil for a Security System

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Abstract : This paper presents an investigation of voice signal processing and coding using MATLAB, with the objective of generating a plasma signal on a Tesla coil within a security system. The approach focuses on using advanced voice signal processing techniques to encode and modulate the audio signal, which is then amplified and applied to a Tesla coil. The result is the creation of a striking visual effect of voice-controlled plasma with specific applications in security systems. The article explores the technical aspects of voice signal processing, the generation of the plasma signal, and its relationship to security. The implications and creative potential of this technology are discussed, highlighting its relevance at the forefront of research in signal processing and visual effect generation in the field of security systems.

Keywords : voice signal processing, voice signal coding, MATLAB, plasma signal, Tesla coil, security system, visual effects, audiovisual interaction

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