

Power electronics converter with marx generator configuration based PEF for liquid food sterilization

S.A.Ghani^a; W.I. Ibrahim^a; M.R.Ghazali^a; N.A. Azli^b

^aFaculty of Electrical & Electronics Engineering Universiti Malaysia Pahang 26600 Pekan Pahang

^bFaculty of Electrical Engineering Universiti Teknologi Malaysia Skudai, Malaysia

ABSTRACT

Pulse electric field (PEF) is an important technique in food treatment to inactivate microorganism. This PEF is an alternative method from conventional thermal methods in food sterilization industry. The role of PEF is to maintain the foods flavor for a small difference range of temperature to find fresh quality of nutritious foods. The new topology for power electronics converter with Marx configuration based on PEF has been proposed and designed using MATLAB/Simulink. The results of the simulation work will be analyzed to determine the workability of the circuits in fulfilling the required specifications for effective sterilization of liquid food. The topology has been carried out due to several advantages compared to the preceding circuits.

KEYWORDS:

pulsed electric field; marx generator; simulation; sterilization

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