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## The effects of laser characteristics on energy generation in particles on a surface

**Wei Peng-Sheng**

National Sun Yat-Sen University, Taiwan

This study is to predict energy generation along a series of particles on a surface subject to a pulsed laser or electromagnetic wave in TM mode. TM mode represents that magnetic field is perpendicular to the incident plane of electrical field. The model is encountered in contemporary and challenging issues of exciting surface plasmon, 3-D printing, nano-scaled components in various plasma processing and nanotechnology. In this study, the Maxwell electromagnetic equations are solved. Energy generation results from electrical resistivity, dielectric and magnetic permeability effects of electromagnetic wave. This study provides a fundamental and systematical step for investigating different distributions of energy generation in particles on a surface as functions of frequency and incident angle of laser beam and space between particles.

pswei@mail.nsysu.edu.tw