

Seminar on

Surface Polariton Light Radiation

by

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Abstract

A new physical phenomenon has been found: in a structure of nano-metal film with dielectric medium loading, the surface polaritons excited by a uniformly moving electron bunch can be transformed into Cherenkov radiation with intensity enhancement in the medium. Based on this mechanism, the surface polaritons Cherenkov light radiation source can generate radiation from visible light to ultraviolet frequency regime and the radiation power density can reach or even exceed one hundred MW/cm², depending on the beam energy and current density. It is a room temperature, tunable and miniature light radiation source promising to be integrated on a chip and built into a light radiation source array.

Biography

Prof. Shenggang Liu (Academician, Chinese Academy of Sciences, Member, Presidium of Chinese Academy of Sciences, IEEE Fellow)

Prof. Shenggang Liu received Ph.D degree in 1958 under the supervision of Prof. I. V. Lebedev of the Moscow University of Energy, USSR. He was elected the Academician of Chinese Academy of Sciences in 1980, and he is now the member of the presidium of Chinese Academy of Sciences. He is IEEE Fellow and the member of the Electromagnetic Academy, MIT. He was awarded the Chinese National Prize of Nature Science in 1985 and 1999, Chinese National Prize of Invention in 2000 and 2001. And he received the Tan Kah Kee Prize in Information Science (highest Prize of Chinese Academy of Sciences) in 1999, and the International K.J. Button Prize in 2003. He serves the member of the International K.J. Button prize Committee (1994-) and the International Committee of the Free Electron Laser Prize (1995-1999).

He was invited to serve as the nominator for Nobel Prize in Physics by the Nobel Committee for Physics of the Swedish Royal Academy of Sciences in the year of 1999 and 2000. He served the President of the University of Electronic Science and Technology of China (1986-2001).

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City University of Hong Kong

*** ALL ARE WELCOME ***

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