Div. Electrical, Electronic, and information Engineering, Electrical Engineering section

High intensity laser engineering lab.

<Staff> Assoc. Prof. Hideaki Habara (7233, <u>habara@eei.eng.osaka-u.ac.jp</u>) Scientist: Dr. Gong TAO, Invited Prof. Yasuhiko Hirooka

J-Fr Int. collaboration

Research subject

We investigate to realize the significant enhancement of the high field intensity by coupling with nanotechnology in order to create the intense ion beam for the application of particle therapy or strong gamma/X-rays for nondestructive inspection, via international collaborative research.

Reearch items

- Creation of ultra intense field
- Effective generation of high-energy particles
- Fabrication of nanomaterial
- Development of huge scale simulation on HPC

Grating AFM image (up) Enhanced electric fields by SPR (bottom)



Nano-porous SEM image / Field concentration in the void





PIC simulation



J-US Int. collaboratior