

Offer of Postdoctoral Researcher and Associate Researcher in Samukawa laboratory, NCTU

1. Outline of our research

Based on semiconductor process technology using plasma process (etching, deposition, and surface modification), Samukawa Laboratory (Green nanotechnology laboratory) is investigating control of atomic layer defect generation and atomic layer chemical reaction using our developed neutral beam technology. Additionally, we are also actively investigating advanced nano-devices (Advanced CMOS, ReRAM, HEMT, QD Solar Cell, QD laser, Graphene transistor) and nano-materials which can be realized by using our original defect-free neutral beam process.

2. Content of work and research

- 1) Damage-free fabrication of nanostructures and 3D structures using our developed defect-free neutral beam processes.
- 2) Application of defect-free processes on Advanced CMOS, HEMT, QD Solar Cell, QD laser, Graphene transistor, bio-sensor and so on.
- 3) Evaluation of process damage and investigation of process damage mechanism on materials and devices.

3. Research Field

Engineering and Complex New Field.

4. Qualification of Position

- 1) Ph.D degree (including Ph.D candidate who will obtain the degree)
- 2) Experience on either of the followings;

- a) Plasma process (especially etching),
- b) Fabrication processes of semiconductor electronic and optical devices,
- c) Devices physics of semiconductor electronic and optical devices

5. Contact Person

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