Division of Electrical, Information and Communication Engineering	Research field	Magnetostrictive energy harvesting and actuator	Lab. ID EI13
Laboratory web site	http://vibpower.w3.kanazawa-u.ac.jp/index-e.html		

Research subjects

Vibration based power generation technology which extracts electrical energy from ordinary vibration of automobile, machine and infrastructure, and motion of human and object. The device using iron-based magnetostrictive material features simple, highly robust, high efficient and low output impedance. This technology realizes battery-free wireless sensor system and remote useful for health monitoring of bridge and factory machine, and prevention of crime and disaster.

Master/Doctor course: Education policy, curriculum, typical activity in the laboratory

Policy of instruction is developing independence and activity. Students are required to master basis and application of electrical circuit, electromagnetics, power electronics, vibration, material mechanics, energy conversion, smart material and structure, magnetic, circuit design and analysis, and manufacturing. Students develop abilities of information gathering, subject and goal setting, experiment and calculation, writing and presentation via research activity. Seminar is held once a week to present and discuss about research progress.

Daily life in the laboratory, etc.

Students are provided individual PC and enough space for experiment. Facilities for manufacturing, experiment and calculation are completed. Students must concentrate into research activity from 10 a.m. to 5. p.m. (core time) and are required to do more experiments to get good results. Laboratory room is equipped with television, refrigerator, microwave oven and sofa to spend comfortable research life.

Message or comments by the laboratory faculty staffs

Vibration based power generation technology is growing up rapidly and will realize battery free IoT near future. The ability and knowledge to learn via research activity will be useful in work of engineer. Join our laboratory and enjoy research with us.

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