

Division of Electrical Engineering and Computer Science	Research field	Radio Science and Engineering	Lab. ID EC09
Laboratory web site	<a href="http://reg.w3.kanazawa-u.ac.jp/">http://reg.w3.kanazawa-u.ac.jp/</a>		
<b>Research subjects</b>			
<p>Our laboratory has two main research topics related with electromagnetic waves.</p> <p>(1) Study on electromagnetic environments in space and on the Earth: One of our research targets is plasma waves in space. We are studying the plasma waves observed by scientific satellites and using computer simulation. Our laboratory is developing electromagnetic sensors to be installed onboard scientific satellites. We are planning to develop a nano (cube) satellite for plasma wave observation.</p> <p>(2) Engineering application of electromagnetic measurements: Another research topic is development of a new measurement technique related with EMC problems. Especially, visualization of electromagnetic waves and localization of electromagnetic source are being actively studied.</p>			
<b>Master/Doctor course: Education policy, curriculum, typical activity in the laboratory</b>			
<p>Students study their research subjects with detailed advices from a supervisor. A seminar will be held every week where students report on the progress of their researches. The M1 students play a central role in the various events and activities in our laboratory.</p>			
<b>Daily life in the laboratory, etc.</b>			
<p>Main experiment facilities: magnetic shielding room and radio anechoic chamber Experiment equipments: PCB milling system, 3D printer, and electromagnetic wave simulator software Some students can file patent application.</p>			
<b>Message or comments by the laboratory faculty staffs</b>			
<p>Professors are willing to offer advices about research topics and others. Our laboratory collaborates with domestic (Kyoto University, JAXA etc.) and international (USA: NASA, The University of Iowa, France: LPP etc.) researchers and companies. Our laboratory promotes research exchanges with other groups (Kyoto University etc.) by holding a seminar every year. Most students completing master course get a job at ICT companies and manufacturers.</p>			
<b>Recent Master theses in these 3 years (+ more if appropriate)</b>			
year.month	Thesis title (including English translation of Japanese thesis title)		
2017.3	Study on measurement of radio-frequency power and phase distributions		
2017.3	Development of an electromagnetic sensor for Poynting vector measurement		
2016.3	Improvement of electrical characteristics of plasma wave receivers using analog ASIC		
2016.3	A close relationship between pulsating aurora and chorus waves on their intensities and periodicities		
2016.3	Automatic calibration of wireless magnetic sensor arrangement for electromagnetic source location system		
2016.3	Improvement of radio-frequency distribution measurement accuracy using metamaterial absorber		
2015.3	Magnetic field measurement for wireless power transmission		
2014.3	Automatic detection of sensor arrangement for electromagnetic source location system		
2014.3	Analysis of generation and propagation characteristics of dual-band chorus emissions in the Earth's magnetosphere		
2014.3	Absorption characteristics of spherical electromagnetic waves by radio wave absorber		
2014.3	Development of dual-resonant search coil and CMOS preamplifier for scientific satellite		
2013.3	Study on high energy particle precipitation associated with wave-particle interaction based on ground and satellite observations		
2013.3	Study of an AMC absorber used as a planer antenna		
2013.3	Development of a measurement and visualization system for polarization using transparent radio wave absorber		
2013.3	RF source-location estimation using a thin absorber		
2013.3	Study on the search coil magnetometer for ERG satellite		
<b>Recent Doctoral theses in these 3 years (+ more if appropriate)</b>			
year.month	Thesis title (including English translation of Japanese thesis title)		
2013.3	Study on hyperthermia using magnetic fluid		
Laboratory mail address	<p>Satoshi YAGITANI &lt;yagitani *at* is.t.kanazawa-u.ac.jp&gt; Mitsunori OZAKI &lt;ozaki *at* is.t.kanazawa-u.ac.jp&gt; Tomohiko IMACHI &lt;imachi *at* imc.kanazawa-u.ac.jp&gt;</p>		