

Returnee's Report

Name :	Teppei YAMAZAKI
Status :	Masters year 1 Nagoya Institute of Technology
Name of Exchange University :	Erlangen-Nürnberg / FAU
Research Theme :	Simulation of piezoelectric material
Duration :	2013/ 11/4~2014/2/1 (90days)
NITECH Faculty Advisor :	Prof. Kennichi Kakimoto
Exchange University Faculty Advisor :	Prof. Prof. Peter Greili, Dr. Tobias Fey
<p>Research Theme in detail :</p> <p><Goal></p> <p>The cellular ceramics of material properties were independent the porosity and pore anisotropy. However, the material properties were evaluated whole of samples. So, it is not shown clearly the effect of surrounding holes. In this study, the purpose is to investigate the influence of the surrounding holes in FEM (Finite Element Method) simulation.</p> <p><Result></p> <p>The simulation about mechanical and piezoelectric properties carried out using Marc.mentate program. Sample form was a cylinder with diameter 10 mm and 20 mm high contain holes. Increasing of holes diameter made bigger value of each properties. In the case of containing two holes, located horizontal samples showed bigger value than located vertical samples.</p> <p><Achievement></p> <p>Simulations of mechanical and piezoelectric properties were carried out Using Marc.mentate FEM program. Containing two holes that located horizontal with 4 mm diameter showed biggest electric field intensity about 380 V/m.</p>	
<p>About the laboratory I was sent to (number of faculty and students, methods used in research activity):</p> <p>number of faculty and students : about 20 people</p> <p>methods used in research activity : preparing, evaluating and simulation of ceramics</p>	
<p>Comments about the workshops and seminars I attended:</p> <p>Attended a seminar about Lead free piezoelectric ceramics.</p>	

My Ambitions:

Talk with foreign people in my laboratory more aggressive.

Concentrate on my research and separate work and private.

Advice and suggestions for young researchers who will go to exchange universities :

The most important thing is asking the question. Don't afraid of making a mistake. Try to speak English. It is no problem that you speak only single word. Everyone is very kind. They are waiting your Speaking.



Picture1. In the labotary



Picture2. Christmas market in Nürnberg



Picture3. Farewell party