

High Efficiency Wireless Power Transfer System Using Spiral DGS Resonators Through Biological Tissues

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派遣先 IEEE MTT-S International Microwave Biomedical Conference
and International Microwave Symposium (米国・フィラデルフィア)

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海外における研究活動状況

研究目的

The main purpose of this research is to provide power to the body embedded sensors effectively and efficiently.

海外における研究活動報告

My name is Sumin Kumar Chalise and I am a Master's (2nd year) student in Kyushu University in the department of Electrical and Electronics Engineering. My paper entitled "High Efficiency Wireless Power Transfer System Using Spiral DGS Resonators through Biological Tissues" has been accepted in IEEE MTT-S International Microwave Biomedical Conference (IMBioC 2018). So, I attended and presented my research paper in the conference.

Microwave week where IEEE MTT-S International Microwave Symposium (IMS), IEEE Radio Frequency Integrated Circuit Symposium (RFIC), IEEE MTT-S International Microwave Biomedical Conference (IMBioC) and Microwave Measurement Conference (ARFTG) were jointly organized in Pennsylvania Convention Center, Philadelphia, America. It was one of the huge and prestigious conference where more than 10000 people attended it from different

parts of the world and it was my first experience to attend such a huge conference where I got a chance to meet researchers and professors of different fields of study. During the conference, I also got a chance to make new friends and got to know about their research works.

Recently, the main issue for the body implanted sensors is to provide power efficiently. Using battery to provide power has some of the drawbacks as it has large size, heavy weight, requires surgical replacement, contains chemicals that adversely affects human health. So there are some techniques to provide powers to those embedded sensors. One of the technique might be the Energy Harvesting technique where the energy can be extracted from the motion of the human body parts. But this energy might not be sufficient to provide powers to those implanted sensors. So, the other method to provide power is "Wireless Power Transfer Technique." In this conference, we have presented the way of transferring power efficiently through the human tissue using Defected Ground Structure Resonators.

この派遣の研究成果等を発表した
著書、論文、報告書の書名・講演題目

High Efficiency Wireless Power Transfer System Using
Spiral DGS Resonators Through Biological Tissues.