

Early Detection of Breast Cancer Saves Life: A Review of Microwave Imaging Against X-Rays Mammography

Maryam Liaqat1*, Marlon Silva 2*, Lucas Gallindo Costa3*, Saher Jabeen4**, Aqsa Habib5***, Emery C. Lins6****, Thiago Campos Vasconcelos7* and Frederico Dias Nunes 8*****

maryamag698@gmail.com [1], marlon.ufpe@gmail.com [2], lucas.gallindo.costa@gmail.com [3], saher488@gmail.com [4], aqsahabib_uaf@yahoo.com [5], emerylins@gmail.com [6], tcampos@gmail.com [7], nunes.fd@gmail.com[8]

Department of Electrical Engineering, UFPE, Brazil*, Department of Statistics**, UAF, Pakistan, Department of Chemistry***, UAF, Pakistan, Department of Biomedical Engineering****, UFPE, Brazil, Department of Nuclear Engineering*****, UFPE, Brazil

Breast Cancer is the deadliest disease among all the types of skin cancer. Every second woman is in danger in Canada and every 8th women in Pakistan and USA. Therefore, it need to focus on this issue seriously, from diagnosis till the cure very carefully. Mammography is a potential tool for breast cancer screening, works on ionizing X-rays exposure on skin which is one of the dark side of mammography. Whereas the other features like early detection, detection in dense breast or in pregnant woman is still not really satisfactory with mammography. After 40 years of age, every woman must pass through screening once in a year but American Cancer Society did not allowed Mammography in a period of two years. In the light of these facts, Scientist think that there is a desperate need of an alternating technique, that is Microwave Imaging (MWI). MWI is non-ionizing technique for diagnosis of breast cancer at early stage which is suitable for all age groups and size of breast but still under developed. The early detection of breast cancer can save the life. The technique depends on the contrast of dielectric properties of the cancerous and healthy tissues and do not need compression of the breast for diagnosis which make it user friendly. For mammography, usually the biopsy is need for results confirmation therefore its expensive too but MWI is cost effect also.

Biography

Maryam Liaqat, Assistant Professor in Department of Physics at University of Agriculture, Faisalabad, Pakistan. Completed my doctorate in 2018 from Electrical engineering department, UFPE, worked on project of Microwave Antenna modifications for the detection of Breast Cancer. Designing flexible antennas for MI system, which will be user friendly, cost effective and more precise in results as compare to X-ray Mammography Technique.