

# Source Current Reconstruction Using MCG Signals

H. Kwon\*, Y. H. Lee, J. M. Kim

<sup>a</sup> *Superconductivity Group, Korea Research Institute of Standards and Science, Daejeon, Korea*

When applying a SQUID system for diagnosing heart disease, it is informative to provide source currents from the measured MCG signals. The bioelectric activity in the heart is generally represented by distributed current sources. In order to estimate primary current distribution, the minimum norm estimate was computed, assuming a source plane below the chest surface. The computing program was made using LabVIEW language. In the simulation, current distributions for the test dipoles with different noise level were compared. Source currents were reconstructed for MCG signals of a healthy adult, which were recorded using 40-channel SQUID system in a magnetically shielded room. The results well described the heart activity

keywords : SQUID, MCG, current reconstruction