

## **Study of the visibility of the Meridian based on electrical impedance tomography**

Yue Wang\*, Xuemin Wang, Guang Han, Xiaolei Ma, Peng Zhou

Department of Biomedical Engineering, Tianjin University, Tianjin 300072, China

\*(Corresponding author:wangyue4873@tju.edu.cn)

**Abstract:** Meridian, showed as a system can adjusts, reflects and contacts the human body, is one of the important concepts and content in traditional Chinese medical science. The study of it is an important way to realize the combination of modern sciences and traditional Chinese medical science. Although there were a lot of researches about the essence of Meridian, no thorough theory and experience can explain Meridian precisely. In this paper we put forward a new method which based on the theory of Applied Current Electrical Impedance Tomography to study meridian. First, we created a simple physical model of the meridian according to the low hydraulic resistance and biophysical features of meridians and used Comsol software for simulation and derived the Jacobian matrix. Then we utilized interrelated reconstruction algorithm and dynamic imaging method to reconstruct image of meridian model. By the numerical modeling experiment, we analyzed the result of the reconstruction and found that this method can show the properties of Meridian preferably. That shows an important implication on the cognition of meridian and provides solid foundation for the further research.