

Abstract Submitted  
for the GEC18 Meeting of  
The American Physical Society

**The effect of biological model on the penetration of RONS generated by plasma.** XINPEI LU, Huazhong University of Science Technology — In this presentation, firstly, a tissueliquid model is utilized to measure the penetration of the long life time RONS and pH value in the receiving chamber after penetrating through the pig muscle tissue. Results show that the six different type of liquid (inorganic group: double distilled water, 1% PBS, 0.9% NaCl; organic group: 5% glucose, 2% serum and 10% serum solution) in the receiving chamber have significant impact on the concentration of RONS after penetrating through the 500 $\mu$ m tissue slice And the RNS concentration in serum solution is much larger than in the other solutions presumably due to the plasma reacting with the amino acid and other protein. Besides, the concentration of reactive oxygen and nitrogen species (RONS) generated by a plasma jet penetrating into and through the skin tissue after plasma treatment are measured, and the effects of stratum corneum on the penetration of RONS are also investigated. It is found that the RONS generated by the plasma jet can penetrate through the skin and the penetration could be enhanced largely by stripping the stratum corneum. Further investigation found out that the typical ROS species can't even penetrate the mice skin no matter whether the stratum corneum layer is present or not, where the thickness of the skin is about 200-300 $\mu$ m, this result is very different from the experiments results from muscle tissue model and gelatin model

XinPei Lu  
Huazhong University of Science  
Technology

Date submitted: 24 May 2018

Electronic form version 1.4