

## Studying microwave absorption of aerosol droplet for the application to material processing

이규복<sup>1</sup>, 박승빈<sup>1,2,\*</sup>

<sup>1</sup>한국과학기술원; <sup>2</sup>초미세화학공정센터

(SeungBinPark@kaist.ac.kr\*)

Using microwave energy in material processing has a lot of advantages such as uniform heating, selective heating according to the difference of dielectric properties, fast heating or reaction, and low energy consuming. Various functional fine particles could be synthesized by using microwave energy as heat source in aerosol processing of material. However, it is challenging since the medium where microwave is absorbed is not sufficient. In this study, it is estimated whether microwave be absorbed efficiently in micron-sized aqueous droplet generated by ultrasonic atomizer or not. Some factors such as the power of microwave energy, size and components of the droplets or residence time of droplet in microwave cavity are considered.