Abstract Submitted
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Study on atmospheric plasma jet irradiation to several micro organisms[1] YOSHIHITO YAGYU, SHOUTA SAKAMOTO, TAKASHI YAMASAKI, Sasebo National College of Technology, NOBUYA HAYASHI, Saga University, HIROHARU KAWASAKI, TAMIKO OHSHIMA, YOSHIAKI SUDA, Sasebo National College of Technology, SASEBO NATIONAL COLLEGE OF TECHNOLOGY TEAM, SAGA UNIVERSITY COLLABORATION — Novel sterilization using active species produced in plasma is studied in a decade as substitution of practical sterilizing method. Effective plasma sterilization methods have been developed, and simultaneously the mechanism of plasma sterilization also becomes a focus of interest. The structure of cell wall of micro organisms is different among the species. Therefore, sterilizing factors in plasma indicate different reaction to cell walls, and the threshold of mortality by plasma irradiation possibly depends on the species of micro organisms. We applied plasma jet to several species of micro organisms together to examine the possibility to the selectivity of plasma irradiation against several species of micro organisms. The CFU between yeast and lactobacillus strongly depends on irradiation period of plasma jet. However, yeast possibly has tolerance against irradiation of plasma jet because among two micro organisms indicate similar tendency even though a surface area of yeast is more than 10 times larger than lactobacillus. It is expected that ineffective micro organisms will be sterilized selectively by plasma irradiation.

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