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**Effects of atmospheric-pressure plasma irradiation on germination and growth of radish sprouts**[1] SHINJI YOSHIMURA, HIROSHI KASAHARA, National Institute for Fusion Science — Positive effects of atmospheric-pressure non-equilibrium plasma irradiation on plant seeds have recently been studied worldwide, and enhancement of seed germination and seedling growth has been reported by many research groups. However, there are wide varieties of the reported effects, which may be attributable to the difference of plasma parameter, plant seed species and growth environment. This study aims to investigate the effects of plasma irradiation onto plant seeds and to provide a new set of results under a controlled growth environment. We chose radish sprouts seeds (*R*aphanus sativus L.) as test plant seeds because of their short growth period and adequate amount of preceding research reports. We used two types of atmospheric pressure discharge devices (NU-Global, PN-110+TPN-20, HUMAP-WSAP-50) with helium or argon as feed gas. The plasma-treated seeds were cultivated in a plant growth chamber (incubator) with temperature and relative humidity control. Comparison of the germination and growth rate as well as the average plant length of plasma-treated seeds with those of non-treated control seeds will be presented.

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