Abstract Submitted
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Evaluation of Decomposition Treatment for Halogenized Compounds by Acceleration of Electrons from Carbon Nanotubes[1] MICHITERU YAMAURA, Institute for Laser Technology, SHIGEAKI UCHIDA, Tokyo Institute of Technology, MASAYUKI FUJITA, MASAHIRO NAKATSUKA, CHIYOE YAMANAKA, Institute for Laser Technology — A novel decomposition treatment for halogenized compounds using a carbon nanotube (CNT) electron source is proposed [1]. It is observed that high concentrations of chlorophenols can be significantly decreased by using a CNT electron source. The concentration is reduced to a maximum level of less than 1/1000 after only a few minutes of treatment. The input energy required for 1 g of chlorophenol is 46 J when the injection power is 0.5 W. The input energy is only 1/161 times lesser than that required for the treatment using barrier discharge. The proposed treatment using CNTs has a high efficiency because the input energy is provided only by the accelerated electrons. A harmless and high-efficiency decomposition treatment for halogenized compounds using an electron source with carbon nanotubes is discussed.
[1] M.Yamaura, et al. Chem. Phys. Lett **435**, 148 (2007).

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