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### Group 2.3 Earth's Electrical Environment

Kawasaki has been transferred to the Department of Electrical Engineering, Osaka University since July 1989. Takeuti and Nakano attended in July 1989 to the Japan-France seminar on lightning held at Deauville, France. Nakano has been transferred to the Department of Electrical Engineering, Nagoya University since November 1989.

During November and December, 1989, we observed lightning at two sites, Shishiku, Ishikawa Prefecture and Mihama, Fukui Prefecture both located in the Hokuriku area. Electric and magnetic field changes together with UHF- and VHF radiation from both natural lightning flashes and rocket triggered ones were recorded at Shishiku as a cooperative research project with the Department of Electrical Engineering, Nagoya University, Nagoya Institute of Technology, Aichi Institute of Technology, Chubu University, etc. We found some differences on UHF- and VHF radiation between summer lightning flashes and winter ones. The main objective of the cooperative observations with the Gifu University and the Osaka University at Mihama was the observations on lightning strokes to some UHV power transmission systems.

Nakano and Kawasaki have still joined to our observations and data analysis. End of March 1990, Takeuti will be transferred to the Aichi College of Technology, then the research activity on lightning and thunderstorms at the Research Institute of Atmospheric should be absolutely end off. Therefore Takeuti distributed to many scientists in Japan "The Selected Papers on Lightning and Thunderstorm Published from the Research Institute of Atmospheric".

February 26, 1990

- Tosio Takeuti -

### Publications (1988-1990)

Hasegawa, T., Z-I. Kawasaki, M. Nakano, and T. Takeuti, The Fractal model numerical simulations of lightning stepped leader, *IEE Japan HV-88-52*, 59-66, (in

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- Nakano, M., Lightning discharges, "Lightning, Hazards and safeguards", 27-44, Edited by C. Uenosono, Kyoh-ikusha (in Japanese), 1988.
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- Takeuti, T., Some considerations on the triggered lightning occurred simultaneously at multipoints, *IEE Japan, HV-88-41*, 37-42, (in Japanese), 1988.
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