

Abstract Submitted  
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**Effect of relaxation and radiation transport on the structure of electro-magnetically driven strong shock waves**<sup>1</sup> KOTARO KONDO, MITSUO NAKAJIMA, TOHRU KAWAMURA, KAZUHIKO HORIOKA, Tokyo Institute of Technology, DEPARTMENT OF ENERGY SCIENCES TEAM — Strong shocks appear in many astrophysical phenomena, such as supernova remnants. Ion-electron relaxation process and radiative transport affect the structure of strong shock waves. Study on these phenomena should contribute to get the well understanding of astrophysical phenomena. We investigate electro-magnetically driven shock in the laboratory experiments. The pulse power device with tapered electrodes can generate a quasi steady and 1-D shock [1], which enables to analyze ion-electron relaxation and radiation processes. The shock Mach number can be up to 250, which correspond to 45 km/s. We will discuss the structure of electro-magnetically driven shock, especially ion-electron relaxation process accompanied with radiation transport, based on experimental results.

[1] K. Kondo, M. Nakajima, T. Kawamura and K. Horioka, Rev. Sci. Instr. **77**, 036104 (2006).

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