Radiation effect and relaxation layer in electro-magnetically driven strong shock waves\textsuperscript{1} KOTARO KONDO, MITSUO NAKAJIMA, TOHRU KAWAMURA, KAZUHIKO HORIOKA, Tokyo Institute of Technology — Strong shock waves play a crucial role in many astrophysical phenomena. Ion-electron relaxation process and radiation affect the structure of strong shock waves. Since the non-linear nature of the relaxation process makes the plasma behavior extremely complicated, it requires well-defined shock wave formation to estimate the structure. We investigate electro-magnetically driven shock in laboratory experiments. The pulse power device with tapered electrodes can generate a quasi steady and 1-D shock\textsuperscript{1}, which allows for analysis of ion-electron relaxation and radiation processes. We will show results of electron temperature measurement by a line pair method and radiative cooling, which restricts the increase of electron temperature.


\textsuperscript{1}Support by JSPS.