Abstract Submitted
for the DFD13 Meeting of
The American Physical Society

Characterizations of Inorganic Electro-Luminescence as an Excitation Source of Pressure-Sensitive Paint Measurement System YOSHIMI IIJIMA, HIROTAKA SAKAUE, JAXA — Electro-luminescence based pressure-sensitive paint (EL-PSP) system uses an inorganic EL as an excitation source for a PSP measurement. It can be directly applied onto a PSP model to eliminate a remote illumination, and gives a uniform illumination on a PSP model without moving/re-directing the illumination. The temperature dependency of the EL-PSP system can be reduced by the opposite temperature dependency of the EL and PSP. An inorganic EL needs an AC input for illumination that creates a periodic excitation of a PSP. It is necessary to characterize the periodic illumination of the EL in terms of a PSP excitation source. At present, it is found that a single pulse of the EL is dependent on the temperature but independent of the pressure. In the presentation, we discuss further the characterizations of the EL as an illumination source of PSP. These include the frequency of the EL illumination and the illumination pattern.

Yoshimi Iijima
JAXA

Date submitted: 02 Aug 2013 Electronic form version 1.4