

**The Study on Lightning Protection Design by using Surge Protection Devices
for Railway Signalling Huts**

Hideki ARAI Keiji SUGIMOTO

Yuto ONO Youhei HIZAWA

Effective and economical lightning protection measures are necessary for railway signalling systems because suspended operation or train delays due to lightning damage may cause social disruption. The authors studied on lightning protection design by using numerical electro-magnetic analysis based on a FDTD (Finite-Difference Time-Domain) method. We analyzed the lightning overvoltage occurrence in the signalling hut when the lightning struck near the hut using the FDTD method. This paper describes analytical results and suggests the lightning protection design by applying surge protective devices.