

**THE NUMERICAL SIMULATION FOR
NANOSECOND PULSE DISCHARGE IN RAILWAY
SWITCH GAP***

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The triggering behavior of the railway switch will influence the jitter of the discharge delay, especially the formation of the multi-channels, which is related with the discharge process of the switch gap under the nanosecond triggering pulses. In this paper, PIC/MCC method was used to investigate the avalanche development under the triggering pulse. A model of inter-shielding has been proposed in PIC/MCC method considering the effect of the space charges. From the simulation and experiments, it has been clarified that the avalanche process is controlled by the statistical delay time of the effective primary electrons. The inter-shielding effect is also related with the rise time of the triggering pulse.

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