

Characterization of the Hydrogen Reservoir for a High Power Gas Switch

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This paper presents the understandings carried out for the installation of the hydrogen reservoir of the multi-gap pseudospark switch under developing for the accelerator applications. As a cold cathode switch, the pseudospark switch could replace the thyratron switch which has hot cathode and being used well currently in the high power field such as laser and accelerator applications. Especially in the klystron modulator, the key component is a switch which mostly defines the jitter and the instability of the modulator system. To get the less jitter and the instability, we need to find proper range of the pressure for the gas discharge inside gas switch. This could be achieved by the understanding of the characteristic of the nonevaporable getter (NEG) which is used as a hydrogen reservoir for the switch. Therefore we verified the characteristics of the NEG (St 172, Saes) and its installation in the switch. Finally we controlled the getter to find best pressure point for the pseudospark switch.

Keywords: gas switch, nonevaporable getter, St 172