

**S2-3 The Test and simulation study of VFTO Generated in UHV****GIS/HGIS**

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**Keywords :** UHV, GIS, HGIS, VFTO, disconnecter, GIS test circuit**Abstract**

In China, UHV power grid is being developed and constructed rapidly by State Grid Corporation of China (SGCC) and GIS/HGIS will be widely used. Very Fast Transient Overvoltage (VFTO) may occur during the switching operation of disconnecter in GIS/HGIS. VFTO has large magnitudes with very short rise time and contains plentiful high frequency components, and may threaten the dielectric of GIS/HGIS and other equipments connected to it, such as transformers. In order to investigate the characteristics of VFTO generated in UHV GIS/HGIS, the test on VFTO has been carefully carried out on UHV GIS VFTO Test Circuit. The measurement results of VFTO were statically analyzed, and the waveform characters, striking numbers, frequency components and residual voltage distribution of full VFTO waveforms furthermore the waveform characters and oscillation factor distribution of single striking waveform, the characteristics of VFTO magnitudes were proposed. From the comparison of calculation and test, waveforms show that the simulating method, put forward by SGEPRI and revised through measurement results, is of relatively high accuracy. All the achievements have been the important reference to master completely the characteristics of VFTO in UHV GIS and to guide the operation of GIS.