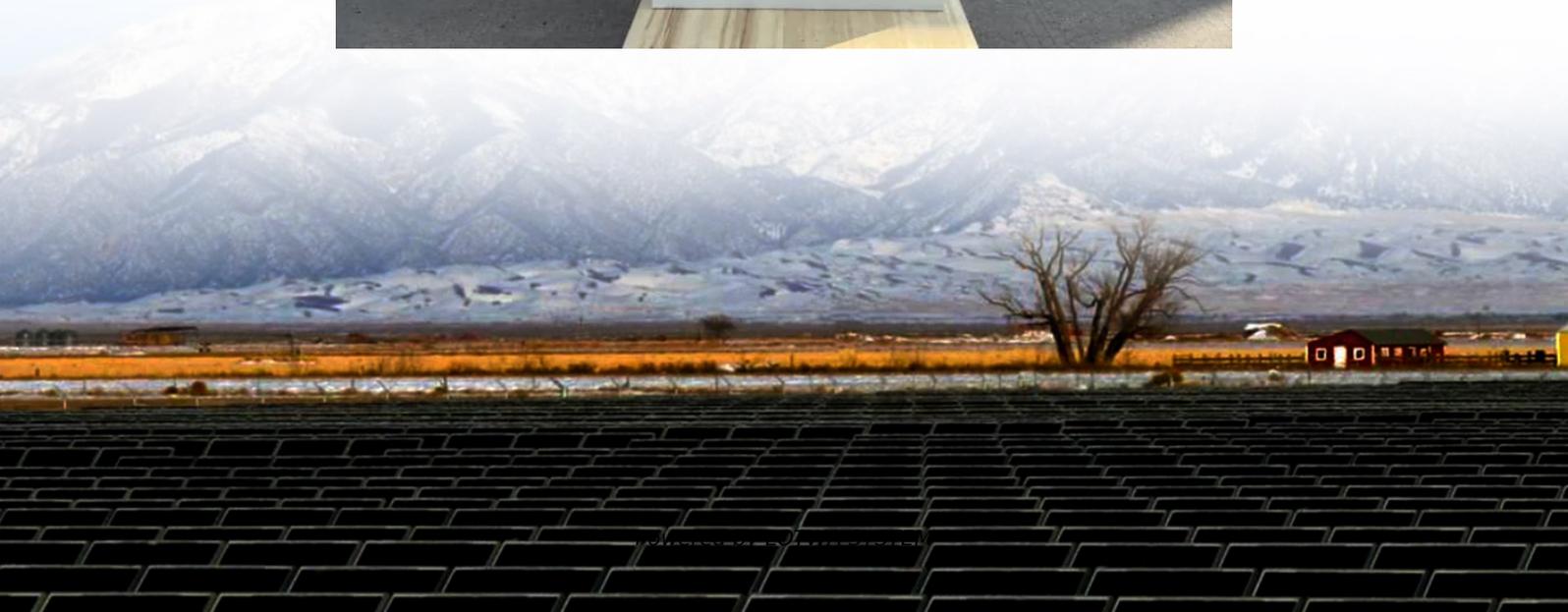


High voltage inverter commutation





Overview

Are commutation failures a threat to high-voltage direct current inverters?

With the increasing applications of high-voltage direct current inverters in heavy-load grids, commutation failures (CFs) pose a severe threat to the safe and stable operation of power systems. This study first sorts methods of CF inhibition into different categories and then investigates their effectiveness, adaptability and limitations.

When does a yd inverter fail to commute?

When the commutation first occurs in the YY inverter, it's assumed that the commutation failure first occurs in the commutation of V12 to V32. Since the short-circuit path is formed when V42 is conducted, the YD inverter will fail to commute during the commutation of V21 to V41. The commutation process is shown as Fig. 7 (a).

Are commutation failures a threat to LCC-HVDC systems?

However, in LCC-HVDC systems, the transient process caused by commutation failures (CFs) poses a great threat to system security and stability by interrupting power transmission and threatening equipment safety .

How to improve transient commutation voltage?

Installing independent compensation devices can be also employed to improve the transient commutation voltage, and are absent of above technical drawbacks. Parallel reactive power compensators are more effective in preventing voltage collapse under heavy loads.



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