US 20230231377A1

(19) United States
(12) Patent Application Publication (10) Pub. No.: US 2023/0231377 A1
LI et al. (43) Pub. Date: Jul. 20, 2023

(54) **METHOD FOR PROTECTING DC LINE IMPEDANCE PHASE BASED ON PROTECTION AND CONTROL COORDINATION**

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(21) Appl. No.: **17/856,621**

(22) Filed: **Jul. 1, 2022**

(30) **Foreign Application Priority Data**

Jan. 19, 2022 (CN) 2022100649242

Publication Classification

(51) **Int. Cl.**
H02H 7/26 (2006.01)
G01R 31/08 (2006.01)

(52) **U.S. Cl.**
CPC ***H02H 7/268*** (2013.01); ***G01R 31/086*** (2013.01); ***G01R 31/088*** (2013.01)

(57) **ABSTRACT**

The present disclosure relates to a method for protecting DC line impedance phase based on protection and control coordination, and an application scenario of the method for protecting is a three-terminal flexible DC transmission network. The method uses high controllability of a converter after a fault, injects a characteristic signal at a characteristic frequency, and calculates a phase angle of input impedance to determine a fault interval, which effectively improves protection performance, turns passive to active, and is not affected by nonlinearity of the converter. At the same time, compared with a full-bridge MMC, using a half-bridge MMC does not need to perform fault ride-through first when identifying a fault, and does not need to add additional equipment, it creates fault features and can reliably identify an fault interval; improves protection quickness and at the same time also has better economic benefits. It has selectivity, and an entire system may not be shut down due to failure of a single line.