

عنوان مقاله:

Analysis of an Active Superconducting Current Controller(ASCC) Considering Protective Coordination of OvercurrentRelayes in a Grid Connected Micro-grid

محل انتشار:

دومین کنفرانس پژوهش های کاربردی در مهندسی برق (سال: 1400)

تعداد صفحات اصل مقاله: 5

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خلاصه مقاله:

Connection of new distributed generation (DG) units in a grid connected micro-grid can be a major reason for increasing the short-circuit level in these networks. It can also disrupt the protective coordination of the existing over-current relays (OCRs) in both main grid and micro-grid. Application of the fault current limiters (FCLs) between the main grid and micro-grid is one of the ways to overcome the above-mentioned problems. However, it is proven that when a short circuit fault occurs in the micro-grid, the limiting impedance of the conventional FCL has an adverse effect on the coordination between the main grid and micro-grid OCrs. The active superconducting current controller(ASCC) is a new device which can limit the fault current as a series voltage compensator. In this paper, three operating modes of ASCC including normal mode, upstream fault mode and downstream fault mode are proposed to achieve an adaptive FCL that solves the mentioned problems in the grid connected micro-grid. The simulation results illustrate the effectiveness of the proposed method in comparison with the previous methods that use the conventional FCLs.

کلمات کلیدی:

.Fault current limiter; Active superconducting current controller; Grid connected micro-grid; Protective coordination

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1474749>

