

Modern power electronics dominated systems

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Electrical power systems are undergoing transformations at generation, transmission, distribution and demand levels. The massive penetration of renewable energy, the proliferation of energy storage systems, electric vehicle, DC interconnectors and Flexible AC Transmissions Systems (FACTS) is leading to a power electronics dominated power system. Although power electronics devices increase the network controllability, it is clear that they are substantially different compared to conventional synchronous generator-based generation systems, fact that poses important challenges at planning, operation and control levels. The talk will briefly cover those challenges, giving a practical view showing relevant research examples and discussing practical cases.