

Special Issue

Energy Storage Systems Applications and Effects on Power Quality

Message from the Guest Editors

Renewable energy sources, mainly solar and wind, are presented as protagonists and have had impressive growth. Beyond the obvious benefits of generation, there are some challenges that the intermittent nature of these sources brings up. Considering this, energy storage is shown to be a vital technology in order to integrate this renewable generation better, whether centralized or distributed, ensuring an increase in power systems performance and other benefits that reach various stakeholders of the electric grid.

On the other hand, the large insertion of energy storage technologies, such as batteries, which require an AC/DC conversion interface with the power grid, directly affects the waveform distortions, mainly as sources of harmonic distortions. Distortions of the waveform cause a series of negative effects on networks at different levels, and cannot be neglected. In addition, there are other problems such as voltage unbalance and voltage fluctuation. Therefore, this Special Issue aims to receive articles highlighting the challenges and benefits that energy storage systems (ESSs) have in power systems.

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Deadline for manuscript submissions

closed (31 March 2022)



Sustainability

an Open Access Journal
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Impact Factor 3.3
CiteScore 7.7



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