

Call for Papers

Special Section on Stability Analysis and Advanced Control of Wind Power Generation

With the continuous advancement of the low-carbon energy development, the wind power generation experiences fast growth with 392.9 GW installed capacity by Jul. 2023. The high penetration of renewable energy, together with high penetration of power electronic equipment (namely, “double high”), has been altering the steady-state and transient characteristics of wind power generation in a profound way, resulting in the different risk of instability. These stability issues will seriously affect the consumption of renewable energy and threaten the safe supply of electricity.

On the one hand, the dominant factors and underlying mechanisms in both small-signal and large-signal stability need to be investigated. On the other hand, some advanced control strategies recently pave the way for tackling these instability challenge. To this end, this Special Section aims to collect the latest theoretical and technological ideas in the field of stability analysis and advanced control of wind power generation, which can facilitate the development and deployment of wind energy conversion system.

In order to further facilitating the application and integration of the wind power generator in the grid, the editorial department of “CES Transactions on Electrical Machines and Systems” invited Assoc. Prof. Peng Cheng from North China Electric Power University as the Guest Editor in Chief, Assoc. Prof. Tao Wang from Nanjing University of Aeronautics and Astronautics as the Co-Guest Editor in Chief, and another 2 well-known experts as the Guest Editors to organize the Special Section on “Stability Analysis and Advanced Control of Wind Power Generation”. We warmly welcome prospective experts and scholars in this field to contribute actively. Detailed topics include but are not limited to:

- Protection and fault ride-through of wind power generation
- Wide-band oscillations in the power system with wind power generation
- Transient synchronization stability mechanism and stabilized control
- Inertia and frequency response of wind power generation
- Optimal voltage regulation of the scaled wind power generation in the power system
- DC collection and transmission of on/off-shore wind power generations
- Grid-forming control of wind power generation with voltage source characteristics
- Integration and interaction of wind power generation and energy storage system
- Condition monitoring and information perception of wind power generation
- Electromagnetic modelling and simulation of wind power generation
- Integrated energy system with wind power generation and hydrogen production
- Wind power prediction model and implementation
- Novel topology and application of wind power generation
- Distributed wind power generation connected to distribution network

Contact the guest editor-in-chief if your manuscript is not within the listed topics, as papers within the general topic of electrical machines and systems are all welcome by the CES TEMS.



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Important Dates

Full paper submission:

Brief guideline for authors:

Papers styles:

- Review articles.
- Original research.
- Rapid communications.

All manuscripts must be submitted through Manuscript Central at <https://mc03.manuscriptcentral.com/tems>. Submissions must be clearly marked "***Stability Analysis and Advanced Control of Wind Power Generation***" on the cover page. When uploading your paper, please select your manuscript type "Special Section" Refer to <http://www.cestems.org> for general information about electronic submission through Manuscript Central. Manuscripts submitted for the special section will be reviewed separately and will be handled by the guest editorial board noted below.

About the journal

CES TEMS is a brand-new quarterly journal published by the China Electrotechnical Society (CES) and the Institute of Electrical Engineering of the Chinese Academy of Sciences, with co-sponsorship of IEEE PELS, starting from March 2017.

CES TEMS is an open-access journal, currently with no publication charge applied to the authors. Published papers will be included in the IEEE Xplore. Also, CES TEMS has been Indexed by Scopus, Inspec and CSCD.

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