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[J] Poster | M (Multidisciplinary and Interdisciplinary) | M-ZZ Others

## [M-ZZ48]Renewable energy and earth science

Mon. May 23, 2022 5:15 PM - 6:45 PM Exhibition Hall 8

Renewable energy penetration is increasing dramatically in the world. Renewable energy power generations have become a strong presence in grid operations. However, it is a challenge for renewable energy to be stable power sources due in part to natural variability of renewable energy and its uneven distribution. For effective use of renewable energy, a combination of various power resources and energy storage technologies (e.g., pumped-storage power generation, storage battery system, electric vehicles) should be desired. Therefore, we need to understand the amount of renewable resources, causes of variation, and the predictability of power output. Then, observation and forecast information from earth science fields should be analyzed and applied to power energy fields to achieve easy use of earth science databases.

Recently, observation databases from remote sensing technology and/or forecasts from numerical models have become essential for both renewable energy and electric power system. Impacts of both earth science data and optimization are essential to economic evaluation of grid operations.

This proposed session needs your presentation from the whole of renewable energy fields (wind power, solar power, geothermal power, tidal power, wave power and biomass power generations). Our goal of this session is to exchange views with various researchers between renewable energy fields and earth science fields (e.g., usage-trends of earth science datasets for renewable energy fields, earth science datasets availability, integrated studies, renewable energy resources in future climate system, and a request from renewable energy fields to earth science fields).

The proposed session features contribution of general interest within earth sciences community.

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