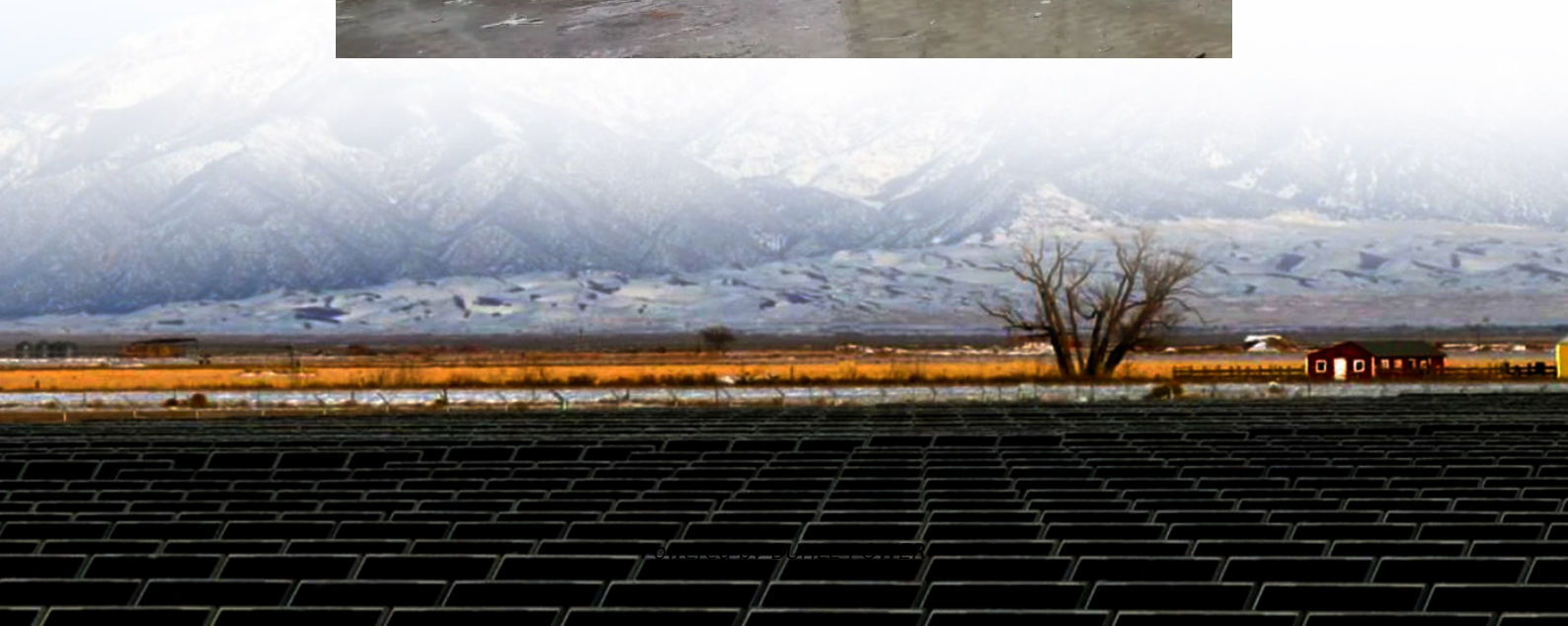


# Active wind power generation system





## Overview

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In order to improve the dynamic performance and reliability of the maximum power point tracking (MPPT), this paper proposes an adaptive active fault-tolerant control (AFTC) strategy of the wind power.

What is a wind power control system?

Author in [ 17] developed a new energy power control system suitable for large-scale wind power generation base, which decomposes the power generated by the wind farm in the base with section and line stability constraints according to the wind power forecast and power generation instructions issued by the power grid.

Can active power control improve the performance of wind power?

The results demonstrate that the proposed method can significantly improve the performance of wind power active power control, and the control deviation in the simulation example can be reduced by about 10%.

When is the active power of a wind farm controlled?

Usually, the active power of the wind farm is controlled only when the forecast power of the wind farm is greater than the power generation plan. The active power control demand  $\Delta P$  are the power generation plan and predicted power of wind farm  $i$ , respectively.

How can a wind generation system be regulated?

One approach involves operating the wind generation system with power reserve, achieved by shifting the MPPT reference. In this approach, the pitch angle can be regulated based on frequency deviations, enabling power reserves to participate in primary frequency control [15].



## Active wind power generation system

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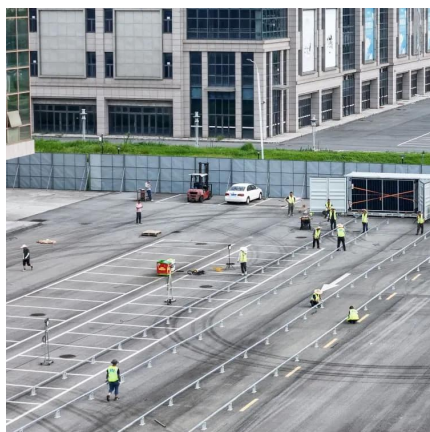


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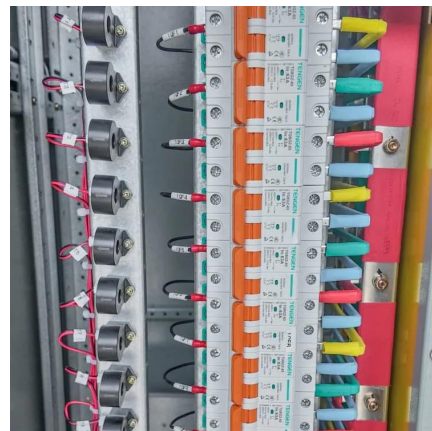
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