CLAIMS

1. A method for optimizing an energy storage system, applied to a terminal or a server, comprising:

in response to a detection instruction, acquiring configuration information of each of battery cells in a target station corresponding to the detection instruction from a data storage system, wherein the configuration information indicates an actual state of each of the battery cells and comprises a state of charge, SOC, and a state of health, SOH, of each of the battery cells;

computing actual state information of each of the battery cells according to the configuration information;

determining a to-be-optimized state of a group to which each of the battery cells belongs according to the actual state information of each of the battery cells, wherein the to-be-optimized state comprises a class of charge to be optimized and a class of state to be optimized;

in response to an optimization instruction, determining a target optimization group from groups and optimizing a battery cell in the target optimization group, wherein the optimization instruction carries at least one of a charge optimization label and a state optimization label;

wherein the in response to the optimization instruction, determining the target optimization group from the groups and optimizing the battery cell in the target optimization group comprises:

when the optimization instruction carries the charge optimization label, taking a group of the class of charge to be optimized as the target optimization group according to the charge optimization label, and recharging the battery cell in the target optimization group;

when the optimization instruction carries the state optimization label, taking a group of the class of state to be optimized as the target optimization group according to the state optimization label, and replacing the battery cell in the target optimization group;

when the optimization instruction carries the charge optimization label and the state optimization label, taking a group of the class of charge to be optimized as the target optimization group according to the charge optimization label and recharging the

battery cell in the target optimization group, and taking a group of the class of state to be optimized as the target optimization group according to the state optimization label and replacing the battery cell in the target optimization group.

2. The method according to claim 1, before computing the actual state information of each of the battery cells according to the configuration information, further comprising:

screening out abnormal data from the configuration information according to a preset information threshold;

cleaning the abnormal data, and sorting rest configuration information to obtain processed configuration information;

wherein the computing the actual state information of each of the battery cells according to the configuration information comprises:

computing the actual state information of each of the battery cells according to the processed configuration information.

3. The method according to claim 2, wherein the detection instruction carries a time period label;

wherein the acquiring configuration information of each of the battery cells in the target station corresponding to the detection instruction comprises:

determining a target time period according to the time period label;

acquiring the configuration information of each of the battery cells during the target time period.

4. The method according to claim 3, wherein the configuration information carries a generation time label;

wherein the cleaning the abnormal data, and sorting the rest configuration information to obtain the processed configuration information comprises:

cleaning and filling the abnormal data to obtain cleaned configuration information;

determining a generation time of the cleaned configuration information according to the generation time label carried in the cleaned configuration information, and sorting the cleaned configuration information according to the generation time to obtain the processed configuration information.

5. The method according to claim 3, before computing the actual state information of each of the battery cells according to the configuration information, further comprising:

determining actual charge information of each of the battery cells at a beginning of the target time period and actual charge information of each of the battery cells at an ending of the target time period according to the configuration information;

wherein the computing the actual state information of each of the battery cells according to the configuration information comprises:

computing the actual state information of each of the battery cells according to the configuration information, the actual charge information of each of the battery cells at the beginning of the target time period and the actual charge information of each of the battery cells at the ending of the target time period.

6. The method according to claim 5, wherein the configuration information comprises current information generated by each of the battery cells during the target time period;

wherein the computing the actual state information of each of the battery cells according to the configuration information, the actual charge information of each of the battery cells at the beginning of the target time period and the actual charge information of each of the battery cells at the ending of the target time period comprises:

determining a first reference value according to a difference value between the actual charge information of each of the battery cells at the beginning of the target time period and the actual charge information of each of the battery cells at the ending of the target time period;

determining a second reference value according to the current information generated by each of the battery cells during the target time period;

computing the actual state information of each of the battery cells according to the first reference value and the second reference value.

7. The method according to claim 5, wherein the determining the to-be-optimized state of the group to which each of the battery cells belongs according to the actual state information of each of the battery cells comprises:

determining group charge information of the group according to actual charge information of each battery cell contained in the group;

determining group state information of the group according to actual state information of each battery cell contained in the group;

determining the to-be-optimized state of the group according to the group charge information, the group state information, a preset group charge threshold interval and a preset group state threshold interval.

8. The method according to claim 7, wherein the group comprises one of a container, a sub-system, a battery cluster; wherein the container comprises at least one sub-system, the sub-system comprises at least one battery cluster, and the battery cluster comprises at least one battery cell;

wherein the determining the group charge information of the group according to the actual charge information of each battery cell contained in the group comprises:

determining group charge information of the battery cluster according to actual charge information of the battery cell comprised in the battery cluster;

determining group charge information of the sub-system according to the group charge information of the battery cluster comprised in the sub-system;

determining group charge information of the container according to the group charge information of the sub-system comprised in the container;

wherein the determining the group state information of the group according to the actual state information of each battery cell contained in the group comprises:

determining group state information of the battery cluster according to actual state information of the battery cell comprised in the battery cluster;

determining group state information of the sub-system according to the group state information of the battery cluster comprised in the sub-system;

determining group state information of the container according to the group state information of the sub-system comprised in the container.

9. The method according to claim 8, wherein the group charge threshold interval comprises at least one of a container charge threshold interval, a sub-system charge threshold interval and a battery cluster charge threshold interval;

the group state threshold interval comprises at least one of a container state threshold interval, a sub-system state threshold interval and a battery cluster state threshold interval;

wherein the determining the to-be-optimized state of the group according to the group charge information, the group state information, the preset group charge threshold interval and the preset group state threshold interval comprises:

determining the battery cluster, the sub-system, and the container to be of the class of charge to be optimized, when the group charge information of the battery cluster does not conform to the battery cluster charge threshold interval, the group charge information of the sub-system does not conform to the sub-system charge threshold

interval, and the group charge information of the container does not conform to the container charge threshold interval;

determining the battery cluster, the sub-system and the container to be of the class of state to be optimized, when the group state information of the battery cluster does not conform to the battery cluster state threshold interval, the group state information of the sub-system does not conform to the sub-system state threshold interval, and the group state information of the container does not conform to the container state threshold interval.

10. An apparatus for optimizing an energy storage system, comprising:

an acquiring module, configured to acquire configuration information of each of battery cells in a target station corresponding to a detection instruction in response to the detection instruction, wherein the configuration information indicates an actual state of each of the battery cells and comprises a state of charge, SOC, and a state of health, SOH, of each of the battery cells;

a computing module, configured to compute actual state information of each of the battery cells according to the configuration information;

a determining module, configured to determine a to-be-optimized state of a group to which each of the battery cells belongs according to the actual state information of each of the battery cells, wherein the to-be-optimized state comprises a class of charge to be optimized and a class of state to be optimized;

an optimizing module, configured to determine a target optimization group from groups and optimize a battery cell in the target optimization group in response to an optimization instruction, wherein the optimization instruction carries at least one of a charge optimization label and a state optimization label;

wherein the optimizing module is further configured to:

when the optimization instruction carries the charge optimization label, taking a group of the class of charge to be optimized as the target optimization group according to the charge optimization label, and recharging the battery cell in the target optimization group;

when the optimization instruction carries the state optimization label, taking a group of the class of state to be optimized as the target optimization group according to the state optimization label, and replacing the battery cell in the target optimization group;

when the optimization instruction carries the charge optimization label and the

state optimization label, taking a group of the class of charge to be optimized as the target optimization group according to the charge optimization label and recharging the battery cell in the target optimization group, and taking a group of the class of state to be optimized as the target optimization group according to the state optimization label and replacing the battery cell in the target optimization group.

11. A computer device comprising a memory and a processor, wherein the memory stores a computer program, and when the processor executes the computer program, steps of the method for optimizing an energy storage system according to any one of claims 1 to 9 are implemented.

12. A computer readable storage medium, wherein a computer program is stored on the computer readable storage medium, and when the computer program is executed by a processor, steps of the method for optimizing an energy storage system according to any one of claims 1 to 9 are implemented.

13. A computer program product comprising a computer program, wherein when the computer program is executed by a processor, steps of the method for optimizing an energy storage system according to any one of claims 1 to 9 are implemented.