CLAIMS

1. A control method for underwater robots of including the following steps:

acquire movement direction progression elements in several directions at multiple moments;

based on the movement direction progression elements, compare the movement tendencies of the underwater robot in different directions to obtain the movement state degree of the movement direction progression elements in different movement directions; according to the movement state degree, screen out main machine movement directions at different moments from all directions, and construct a main machine movement direction sequence of the underwater robot;

in the main machine movement direction sequence, analyze the movement degree of the main machine movement direction within a preset local time range to obtain the machine anomaly degree at different moments; according to the machine anomaly degree, compare the abnormal changes of the movement direction progression elements between different main machine movement directions, and classify the movement direction progression elements into core machine to-be-adjusted categories;

analyze the to-be-adjusted situation of the movement direction progression elements in the same core machine to-be-adjusted category to obtain the correction adjustment component elements; perform attitude control on the underwater robot according to the correction adjustment component elements;

a method for obtaining the main machine movement direction sequence is as follows:

take any moment as a marked moment; at the marked moment, take the direction to which the movement direction progression element with the largest movement state degree belongs as the main machine movement direction at the marked moment; take the sequence formed by arranging the main machine movement directions at all

moments in ascending order of time as the main machine movement direction sequence;

a method for obtaining the core machine to-be-adjusted categories is as follows:

compare the differences in movement state degrees between the main machine movement directions at different moments, and combine with the machine anomaly degree to obtain the category membership degree between different moments; according to the category membership degree, classify the movement direction progression elements into core machine to-be-adjusted categories;

a method for obtaining correction adjustment component elements is as follows:

compare the change differences in machine anomaly degrees between different core machine to-be-adjusted categories to obtain the machine anomaly control time range; analyze the coverage length within the machine anomaly control time range to obtain the correction adjustment component elements.

2. The control method for underwater robots according to claim 1, wherein a method for obtaining the movement state degree is as follows:

take any direction as a target direction and any moment as a target moment, compare the difference in movement direction progression elements between the target direction and all overall directions at the same moment, and obtain the movement state degree of the target direction at the target moment.

3. The control method for underwater robots according to claim 1, wherein after calculating the movement state degree, the method further includes:

performing normalization processing on the movement state degree.

4. The control method for underwater robots according to claim 1, wherein a method

for obtaining machine anomaly degree is as follows:

take any moment as a reference moment; obtain the preset local time range of the reference moment; analyze the movement degree of the main machine movement direction within the preset local time range to obtain a range machine attitude stability of the reference moment; according to the range machine attitude stability, combined with the analysis of the extreme situation of the movement tendency of the reference moment in the main machine movement direction sequence, obtain the machine anomaly degree of the reference moment at the reference moment.

5. The control method for underwater robots according to claim 4, wherein a method for obtaining the range machine attitude stability is as follows:

analyze the stability of the movement state degree under the overall main machine movement direction within the preset local time range to obtain the range machine attitude stability of the reference moment.

6. A control system for an underwater robot, comprising a memory, a processor, and a computer program stored in the memory and running on the processor, the processor executes the computer program to implement the steps of the aforementioned method.

7. A control device for an underwater robot, the device comprising:

a movement direction travel element acquisition module, a machine control command analysis module, and an underwater robot control module; wherein the movement direction travel element acquisition module is used to acquire movement direction travel elements in several directions at a number of moments; the machine control command analysis module implements the steps of the control method for the underwater robot of any one of claims 1-5 by calling a computer program to obtain correction adjustment component elements; and the underwater robot control module

performs attitude control on the underwater robot according to the correction adjustment component elements.