

System Optimization Lab

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Laboratory introduction:

The core technology of this laboratory is to apply decision tree to develop **air-conditioning system operation strategy**, to **establish dynamic performance monitoring** of chiller system based on ASHRAE performance indicators, to use artificial intelligence combined with external technology to develop energy-saving plan and to combine big data analysis and user behavior energy-saving intervention And energy management.

The research scope is mainly to **analyze the performance of the chiller system**. Because its performance is affected by many factors, it is impossible to directly use numerical regression to estimate the correct host performance. Therefore, the ASHRAE chiller system performance regression is used to combine the measurement data of different seasons with regression analysis. Method and statistical principles, find out the regression curve of the main engine in different periods, and observe the discrete changes of the operating conditions (such as the temperature of the chiller water main engine in and out, load rate, etc.) at different times, and try to find out the applicable range in different periods through the algorithm The correlation between conditions and impact factors has developed usable evaluation criteria and applied actual cases to verify the feasibility of its actual operation. At present, it is mainly used in large and small energy management systems and case sites. In recent years, it has also been combined with research results through web writing technology to achieve real-time monitoring. From the past **Asp.net framework** to the current **MVC.net core**, we are advancing with the times for reference and use by the industry to help improve related issues.

Main research project:

