

From the figure above, the estimated errors of the television, computer, and efficient light bulb are larger than the others. Take the actual use time and electricity consumption for a comparison, it showed that the error of time is small, but the fluctuation percentage of the active power value is larger than others'. The main reason of the large error is that the difference between actual active power average value and the value stored in the template library is bigger.

VI. Conclusion

The classified measurement of household load can optimize the power consumption mode of the home, and make the users take participation in DSM. Measure the load by classification with synthesizing the global and partial characteristics by Minkowski distance. It takes a more completely use of time domain characteristics of transient waveform. The method is simple and to implement, and the error of the classified measurement of the common load in home is smaller than 5%, so it can be used for the smart meter.

But the estimated error exists and is large, as the actual active power of some load has large fluctuations, and has a large difference with the value stored in the library. The next step of the research is how to store the active power value to make it more close to the real satiation.

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