

## **Capacity Selecting Method of Energy Storage Systems Using Optimal Charging/Discharging Control Method**

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From the viewpoint of energy saving, the optimal control method of wayside energy storage systems is one of minimizing of the total energy supplied from all the related traction substations. Therefore we developed the optimal charging/discharging power control method of the energy storage systems under the condition in which a discrete time model is adopted, speed profiles and driving operations of all trains are fixed, and charging energy of the energy storage system is lost at a fixed rates. The method can support the design of a required capacity for the energy storage systems. In this paper, we present details of this method with some calculation results obtained by varying parameters.