**Reading Summary:** EV Charging Network Design with Transportation and Power Grid Constraints

**Student Name**,

Zengyang Gong from Shenzhen University

**Submission Date**

**1 The Problem(s)**

Please describe the problem(s) in your own words. Is the problem important at the time of paper publication, and

how about now? Why?

Under the constraint from power grid and the time-varying and location-dependent EV charging demands，the charging service provider wants to maximize the total profit of the charging network by choosing a correct way to deploy the EV charging infrastructure(choose the locations from some given possible locations in the city to construct the charging stations and choose the number of chargers in each station)

This problem is vital for the development of EVs. Especially in China, the existing charging stations can’t meet needs of more and more EVs. Comparing with the formal research works don’t take the profit of the service provider into consideration, researchers need to find some way to stimulate the provider to construct more charging stations.

**2 Main Idea(s)**

Please describe the main idea(s) in your own words. How is the idea different from the existing work at the time of

paper publication? How does the idea impact the follow-on work till now?

optimize the charging station locations and the number of changers in each station: (1)model coverage area of each possible location (2)formulate the problem as profit maximzation

**3 Major Strengths**

Please list at least three most important things in this paper. Why do you think they were important at the time of

paper publication? How about now?

1. This paper first focuses on the optimal charging network design for charging service providers
2. 问题定义清晰，从真实问题中正确抽取出了数学定义
3. The solution of this research work is very different from recent popular data-driven solutions like machine-learning or deep-learning. Obviously, this method has better interpretability.

**4 Major Weaknesses**

Please list at least three things you think may need further improvement in this paper. Has the improvement

appeared in the follow-on work already?

1. The possible locations are given
2. 对比方法单调
3. 删除掉不盈利的充电站会不会导致充电的时间增长过多，使服务的人数减少

**5 Possible Improvement**

Do you have some ideas of your own on this problem? Can you do something better or differently? How can you

show that?

1. Data-driven methods to find some possible locations
2. Balance the profit between the drivers and charging service provider