

Hybrid Storage Model

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1 Introduction

There is a theory which states that if ever anyone discovers exactly what the Universe is for and why it is here, it will instantly disappear and be replaced by something even more bizarre and inexplicable. There is another theory which states that this has already happened.

Figure 1: The Universe

2 Model

2.1 Constraints

- Supply demand balance:
- Stored energy changes, including constant leakage loss:
- Bounds on stored energy:
- Bounds on charging:
- Bounds on discharging:

2.2 Objective Function

- Minimize charge and discharge rates for the first storage device (battery)
- Minimize power loss due to energy transfers

References