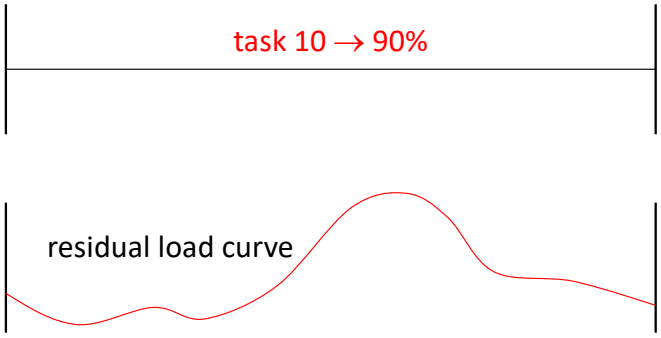
Peak reduction

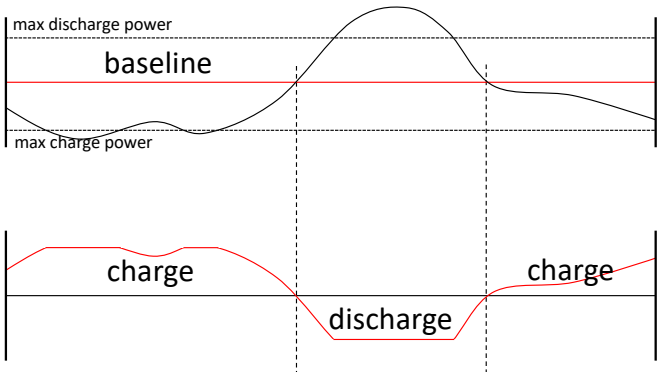
1



Given is the task to (dis)charge, e.g. from 10 to 90%, over a certain time period.

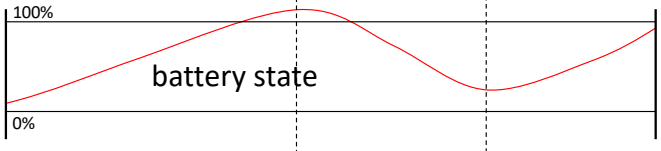
Given is also a residual load curve. The absolute level is irrelevant.

2



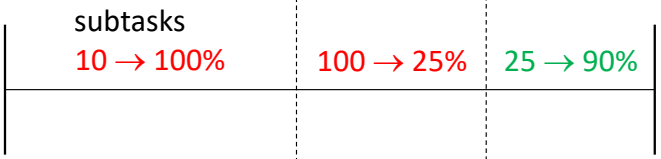
Now we determine a baseline, such the battery takes up (charges on) what is above and feeds in (discharges on) what is below, capped by maximum charge and discharge power. It requires an approach method to determine the level of the baseline.

3



However, battery capacity might get under 0% or, as is the case here, above 100%.

4



Still, it yields information about how to slice the task into subtasks. These can be fed into the algorithm again, until all conditions are met. Here, the third one is done.

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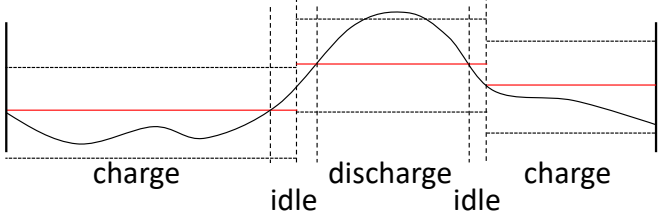

This figure illustrates how the end result looks like. The approach method ensures that peak loads are shaved off, as shown by the first two subtasks.