battery_r.ebe

Attributes

```
ebe name=battery_r x_inputs=yes
# resistor element for battery modeling
# Reference:
#   Chen and Rincon-Mora,
#   "Accurate Electrical Battery Model Capable of Predicting Runtime
#   and I-V Performance,"
#   IEEE Transactions on energy conversion, vol. 21, June 2006.
Jacobian: variable
nodes: p n
state_vars:
aux_vars:
aux_vars_startup:
x_vars: soc
iparms:
sparms:
rparms:
+  a0=0.1
+  b0=0.1
+  b1=20.0
+  r=0.0
stparms:
igparms:
outparms: i v
```

Description

battery_r.ebe, along with battery_c.ebe and battery_vsrc.ebe are used to make up the battery model (sub-circuit s_battery_1) described in the following reference. It is a resistance whose value depends on the variable soc.

Reference:

M. Chen and G.A. Rincon-Mora, “Accurate electrical battery model capable of predicting runtime and IV performance,” *IEEE transactions on energy conversion*, vol. 21, pp. 504-511, 2006.