

IEEE PHM 2014 Data Challenge

Actual SOHs and RULs

Actual SOHs to be estimated

@ $t_{pred} = 666$ h	ReZ (Ohm)	ImZ (Ohm)
$Fr = 50$ mHz	0.01661200	-0.00032995
$Fr = 789$ mHz	0.01705200	+0.00106490
$Fr = 5.18$ Hz	0.01371100	+0.00313550
$Fr = 505$ Hz	0.00500670	+0.00049070
@ $t_{pred} = 830$ h	ReZ (Ohm)	ImZ (Ohm)
$Fr = 50$ mHz	0.01769600	-0.00034782
$Fr = 789$ mHz	0.01812300	+0.00132880
$Fr = 5.18$ Hz	0.01413400	+0.00353000
$Fr = 505$ Hz	0.00499880	+0.00055520
@ $t_{pred} = 1016$ h	ReZ (Ohm)	ImZ (Ohm)
$Fr = 50$ mHz	0.01888100	-0.00028024
$Fr = 789$ mHz	0.01915200	+0.00151630
$Fr = 5.18$ Hz	0.01475700	+0.00389130
$Fr = 505$ Hz	0.00498770	+0.00057563

Table 1: Challenge Part 1: SOH estimation - actual values ($J = 0.70$ A/cm²)

Actual RULs to be predicted

$t_{pred} = 550$ h	RUL estimates
Failure threshold: 3.5 % of P_{init}	021.4442 h
Failure threshold: 4.0 % of P_{init}	194.1917 h
Failure threshold: 4.5 % of P_{init}	209.7127 h
Failure threshold: 5.0 % of P_{init}	384.3280 h
Failure threshold: 5.5 % of P_{init}	386.7023 h

Table 2: Challenge Part 2: RUL prediction - actual values