andes.routines.pflow

Module for power flow calculation.

Classes

PFlow([system, config])	Power flow calculation routine.

andes.routines.pflow.PFlow

class andes.routines.pflow.**PFlow**(*system=None*, *config=None*)

Power flow calculation routine.

Power flow analysis currently supports limiting reactive power (needs to to be turned on via *config.pv2pq*) but does not enforce voltage limits.

__init__(*system=None*, *config=None*)

Methods

doc([max_width, export])	Routine documentation interface.
fg_update()	Evaluate the limiters and residual equations.
init(*args, **kwargs)	Routine initialization interface.
newton_krylov([verbose])	Full Newton-Krylov method from SciPy.
nr_solve()	Solve the power flow problem using itertive Newton's method.
nr_step()	Solve a single iteration step using the Newton-Raphson method.
report()	Write power flow report to a plain-text file.
run(**kwargs)	Solve the power flow using the selected method.
summary()	Output a summary for the PFlow routine.

PFlow.doc

PFlow.**doc**(*max_width=78*, *export='plain'*)

Routine documentation interface.

PFlow.fg_update

`PFlow.fg_update()`

Evaluate the limiters and residual equations.

PFlow.init

`PFlow.init(*args, **kwargs)`

Routine initialization interface.

PFlow.newton_krylov

`PFlow.newton_krylov(verbose=True)`

Full Newton-Krylov method from SciPy.

Parameters

verbose
True if verbose.

Returns

bool
Convergence status

Warning: The result might be wrong if discrete are in use!

PFlow.nr_solve

`PFlow.nr_solve()`

Solve the power flow problem using itertive Newton's method.

PFlow.nr_step

`PFlow.nr_step()`

Solve a single iteration step using the Newton-Raphson method.

Returns

float
maximum absolute mismatch

PFlow.report

`PFlow.report()`

Write power flow report to a plain-text file.

Returns

bool
True if report was written, False otherwise.

PFlow.run

`PFlow.run(**kwargs)`

Solve the power flow using the selected method.

Returns

bool
convergence status

PFlow.summary

`PFlow.summary()`

Output a summary for the PFlow routine.

Attributes

class_name

PFlow.class_name

property `PFlow.class_name`

andes.routines.tds

ANDES module for time-domain simulation.