PYPOWER Documentation

Release 4.0.0

Richard Lincoln

July 07, 2011

CONTENTS

Contents:

CHAPTER

ONE

INTRODUCTION

PYPOWER is a power flow and Optimal Power Flow (OPF) solver. It is a port of MATPOWER by PSERC (Cornell) to the Python programming language. Current features include:

- DC and AC (Newton's method & Fast Decoupled) power flow and
- DC and AC optimal power flow (OPF)

CHAPTER

TWO

LICENSE AND COPYRIGHT

CHAPTER

THREE

INSTALLATION

PYPOWER depends upon:

- Python 2.5 or later and
- SciPy 0.7 or later.

It can be easy_installed using setuptools:

```
$ easy_install PYPOWER
```

Alternatively, download and unpack the tarball and install:

```
$ tar zxf PYPOWER-4.0.tar.gz
$ python setup.py install
```

On UNIX systems, use sudo for the latter command if you need to install the scripts to a directory that requires root privileges:

```
$ sudo python setup.py install
```

The development Git repository can be cloned from GitHub:

```
$ git clone http://github.com/rwl/PYPOWER.git
```

CHAPTER

FOUR

USAGE

Installing PYPOWER creates `pf` and `opf` commands. To list the command options:

```
$ pf -h
```

PYPOWER includes a selection of test cases. For example, to run a power flow on the IEEE 14 bus test case:

```
$ pf -c case14
```

Alternatively, the path to a PYPOWER case data file can be specified.:

```
$ pf /path/to/case14.py
```

The `opf` command has the same calling syntax. For example, to solve an OPF for the IEEE Reliability Test System and write the solved case to file:

```
$ opf -c case24_ieee_rts --solvedcase=rtsout.py
```

For further information please refer to the API documentation.

CHAPTER

FIVE

INDICES AND TABLES

- *Index*
- *Module Index*
- *Search Page*