
thrustcurve Documentation

Release 0.0.1dev

Rich Wareham

November 30, 2015

1	Example usage	3
2	Reference	7
	Python Module Index	9

Thrustcurve is a Python module designed to make it easy to parse amateur rocketry file formats.

Example usage

The following example shows loading a RockSim format file from <http://www.thrustcurve.org/> into a Pandas DataFrame object:

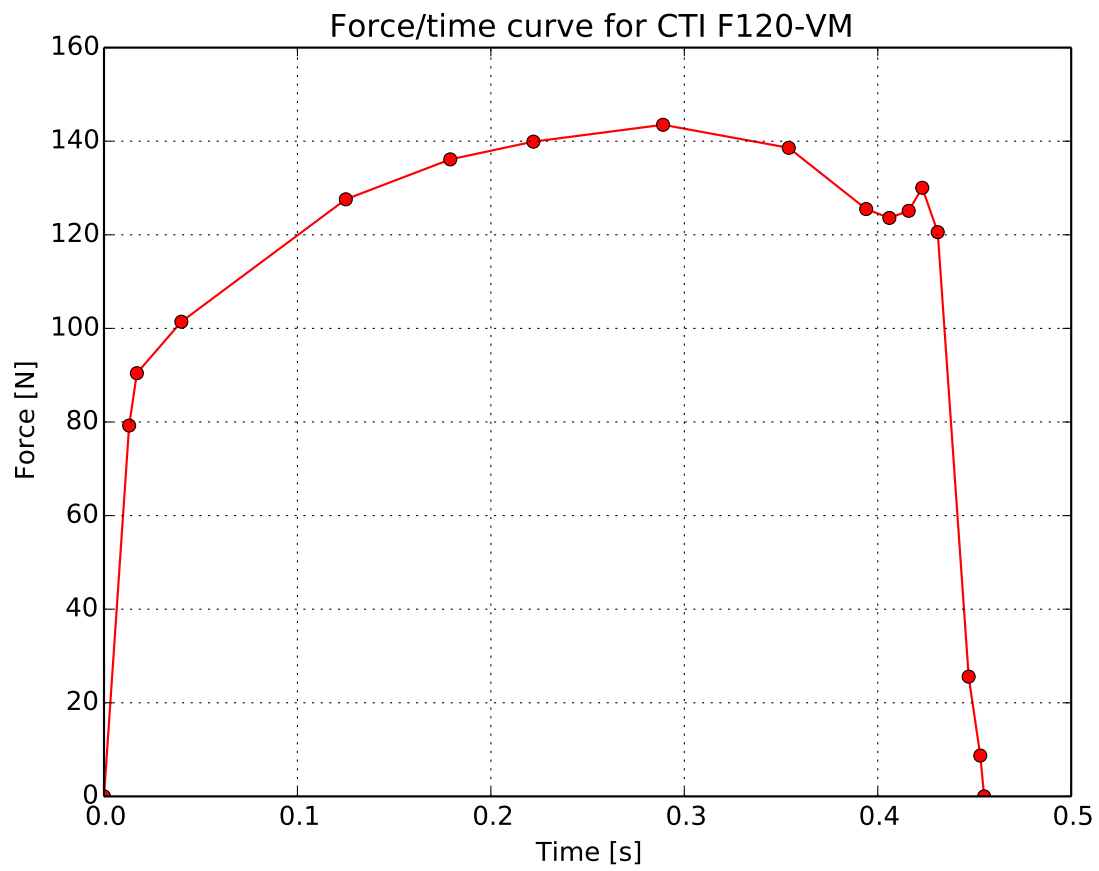
```
import requests
import thrustcurve
import matplotlib.pyplot as plt

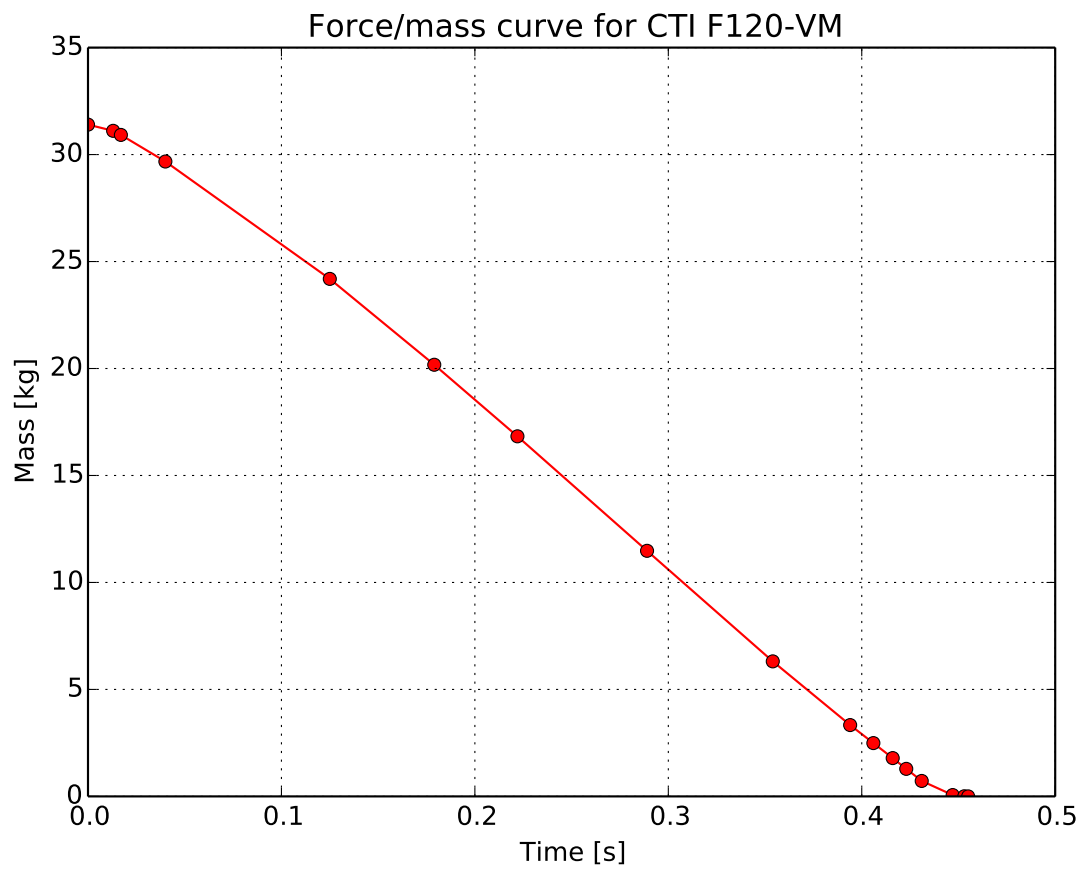
rse_data = requests.get('http://www.thrustcurve.org/download.jsp?id=1800').text
engines = thrustcurve.loads(rse_data)

e = engines[0]

plt.figure()
plt.plot(e.data['time'], e.data['force'], '-or')
plt.xlabel('Time [s]')
plt.ylabel('Force [N]')
plt.grid()
plt.title('Force/time curve for {} {}'.format(e.manufacturer, e.code))

plt.figure()
plt.plot(e.data['time'], e.data['mass'], '-or')
plt.xlabel('Time [s]')
plt.ylabel('Mass [kg]')
plt.grid()
plt.title('Force/mass curve for {} {}'.format(e.manufacturer, e.code))
```





Reference

The `thrustcurve` module contains functions and objects designed to be useful to those parsing rocket motor thrust curve files.

class `thrustcurve.Engine` (*manufacturer=None, code=None*)

Class representing a rocket engine.

The rocket engine thrust curve is contained within the `data` attribute. This is a `pandas.DataFrame` instance with the columns “time” (seconds), “force” (Newtons) and mass (kg).

See also: the [Pandas documentation](#).

manufacturer

str or None

manufacture of rocket

code

str or None

manufacturer’s code for this engine

comments

str or None

additional comments

data

pandas.DataFrame

thrust curve data

exception `thrustcurve.ParseError`

Raised when an input file could not be parsed.

`thrustcurve.load` (*fn_or_fobj*)

Load a RockSim (.rse) format engine database.

Parameters `fn_or_fobj` (*str or file like object*) – file containing .rse format data

Returns `py:class:Engine` instances, one per engine in the file.

Return type A list of

Raises `ParseError` – if the file is of the wrong format

`thrustcurve.loads` (*string*)

Load engine data from string.

Like `load()` except that the parameter is the textual content of the file as a string.

t

`thrustcurve`, [7](#)

C

code (thrustcurve.Engine attribute), [7](#)

comments (thrustcurve.Engine attribute), [7](#)

D

data (thrustcurve.Engine attribute), [7](#)

E

Engine (class in thrustcurve), [7](#)

L

load() (in module thrustcurve), [7](#)

loads() (in module thrustcurve), [7](#)

M

manufacturer (thrustcurve.Engine attribute), [7](#)

P

ParseError, [7](#)

T

thrustcurve (module), [7](#)