# pinch-analysis Documentation

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# ONE

# PINCH-ANALYSIS

Pinch-point technique for heat integration analysis in chemical plants.

## 1.1 Getting Started

No package is provided. No docker image is provided. Simply clone https://github.com/ahoetker/pinch-analysis.git, and run `pip install -r requirements.txt` to create the Python environment.

## 1.2 Usage

In this stage of development, the only target is a run script. Run `python main.py`.

## 1.3 Testing

No unit tests are currently written.

## 1.4 Authors

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CHAPTER

# TWO

# PLOTS

pinch.plots.**cold_composite**(*enth: numpy.array*, *temp: numpy.array*, *show: bool = False*, *filename: pathlib.Path = None*) → None

Cold composite curve

**Parameters**

- **enth** – array of enthalpy values
- **temp** – array of cold temperatures
- **show** – display the generated plot using *pyplot.show*
- **filename** – file destination to save the figure

**Returns** None

pinch.plots.**combined_composite**(*enth_cold: numpy.array*, *enth_hot: numpy.array*, *temp_cold: numpy.array*, *temp_hot: numpy.array*, *show: bool = False*, *filename: pathlib.Path = None*) → None

Combined composite curve

**Parameters**

- **enth_cold** – array of enthalpy values corresponding to cold stream temperatures
- **enth_hot** – array of enthalpy values corresponding to hot stream temperatures
- **temp_cold** – array of cold temperatures
- **temp_hot** – array of hot temperatures
- **show** – display the generated plot using *pyplot.show*
- **filename** – file destination to save the figure

**Returns** None

pinch.plots.**grand_composite**(*enth: numpy.array*, *temp: numpy.array*, *show: bool = False*, *filename: pathlib.Path = None*) → None

Grand composite curve

**Parameters**

- **enth** – array of enthalpy values
- **temp** – array of temperatures
- **show** – display the generated plot using *pyplot.show*
- **filename** – file destination to save the figure

**Returns** None

pinch.plots.**hot_composite**(*enth: numpy.array*, *temp: numpy.array*, *show: bool = False*, *filename: pathlib.Path = None*) → None

Cold composite curve

**Parameters**

- **enth** – array of enthalpy values
- **temp** – array of hot temperatures
- **show** – display the generated plot using *pyplot.show*
- **filename** – file destination to save the figure

**Returns** None

pinch.plots.**stream_matching**() → None

Steam matching diagram I am still unsure how to create this diagram, so this is a pure stub with no parameters.

**Returns**

CHAPTER

THREE

# PINCH-ANALYSIS

Pinch-point technique for heat integration analysis in chemical plants.

## 3.1 Getting Started

No package is provided. No docker image is provided. Simply clone https://github.com/ahoetker/pinch-analysis.git, and run `pip install -r requirements.txt` to create the Python environment.

## 3.2 Usage

In this stage of development, the only target is a run script. Run `python main.py`.

## 3.3 Testing

No unit tests are currently written.

## 3.4 Authors

| Name | Contact | Github |
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