LINFIT

Release Today

Ray

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class mirspec.**mirspec**(*wavelength*, *flux*, *flux_error*)

Create a new mid-infrared spectrum object

Parameters

- **wavelength** – Wavelength in microns or specified unit
- **flux** – Flux in Jansky or specified unit
- **flux_error** – Flux error in Jansky or specified unit

Return type Instance variable

Returns

spectrum variable with wavelength in microns and flux and flux error in Jansky.

linfit(*sigma=1.5*, *l_min=5*, *l_max=15*, *max_interations=50*)

Executes the fit of the equation $\log F_\nu = \text{slope} \times \log \nu + \text{intercept}$ by clipping the emission and absorption features where residual $> \sigma \times \text{standard deviation}_{\text{residual}}$

How to use:

Initiate a spectrum object

```
spec = mirspec(wavelength, flux, flux_error)
```

run the method

```
spec.linfit()
```

and call any of the resulting instance variables

```
spec.ten_flux
```

Parameters

- **sigma** – Multiplicative number that determines that a point sigma*standard deviation of the residuals is excluded before next iteration, effectively clipping the spectrum
- **l_min** – Minimum wavelength to use
- **l_max** – Maximum wavelength to use
- **max_interations** – Maximum number of times to iterate the fit

Return type Instance variables

Returns Results of the fit **slope**, **intercept**, the absorption corrected 10.5 microns flux (**ten_flux**) and the arrays containing the data of each iteration for **frequencies**, **fluxes**, **slopes**, **intercepts**, **residuals**, **residual_stds**.

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