Average of matrices

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Abstract

A Python routine for averaging astronomical data matrices.

Materials and methods

Let's implement this calculation $\bar{A} = \frac{1}{n}\left(\sum_{p=1}^{n} A^{(p)}\right)$. The matrices must have the same size.

```
import os
import glob
import numpy as np
from astropy.io import fits

x_1 = glob.glob('/tmp/*.fits')

x_2 = []

for x_3 in x_1:
    x_4 = fits.getdata(x_3, ext=0)
    x_2.append(x_4)

x_5 = np.mean(x_2, axis=0)

x_6 = fits.PrimaryHDU(x_5)
x_7 = fits.HDUList([x_6])
x_7.writeto('/tmp/0001.fits')
```

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