Instrument Stability & Variability Detection

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- If $Flux_{object}(t) = Constant$, then we are able to measure the instrumental variations.
- If $Instrument(t)$ is known, then we can determine $Flux_{object}(t)$

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Those objects which deviate from the mean behaviour can be considered photometrically variable.

Defining the mean behaviour

Assume a set of times $(t_1 ... t_N)$ when objects $O_1 .. O_m$ have been measured.

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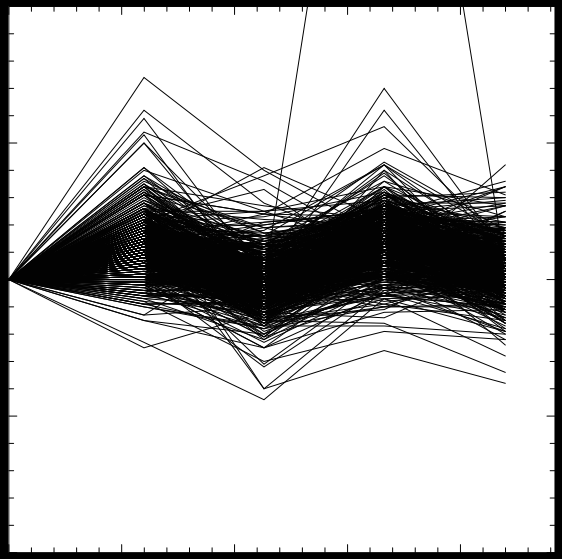
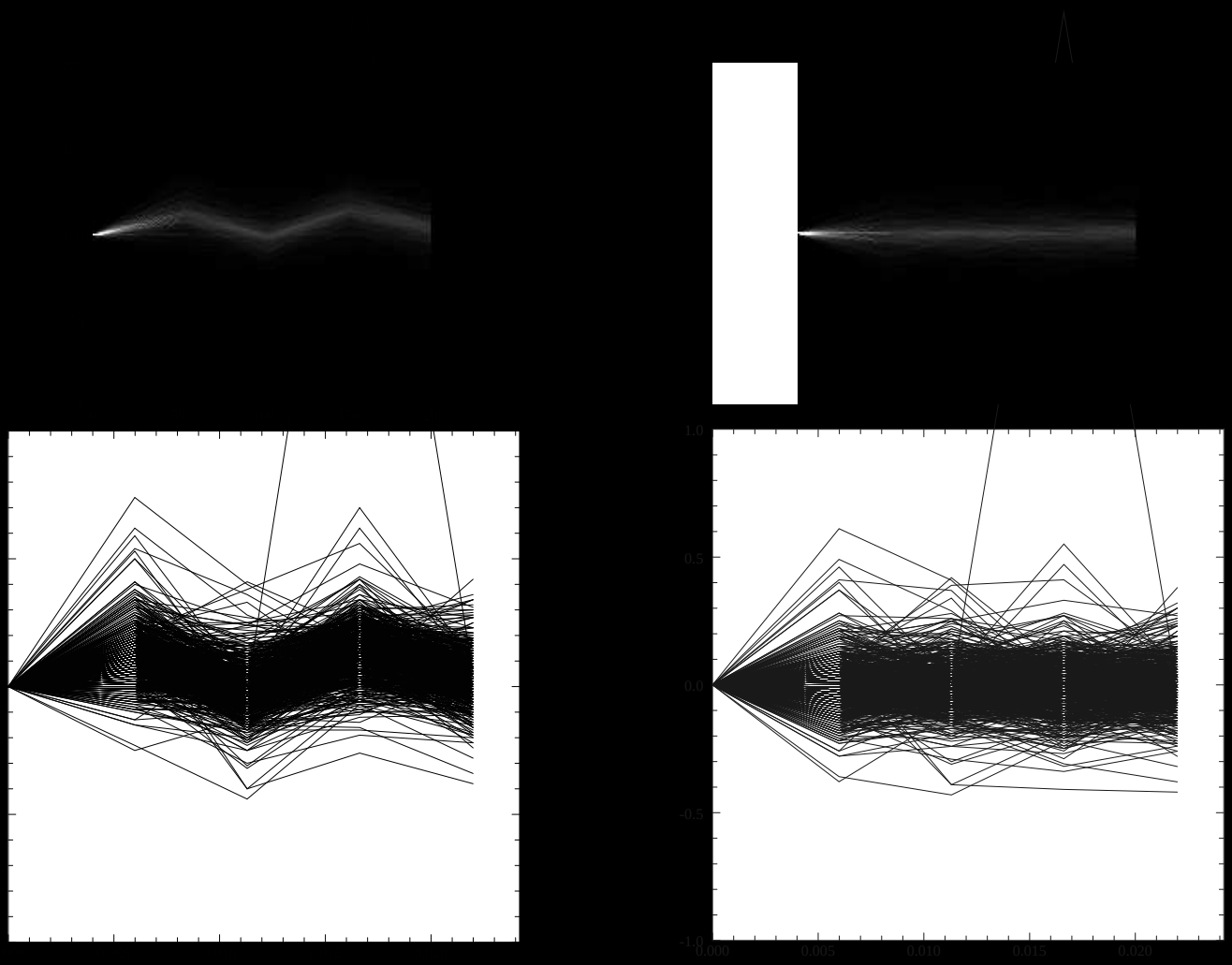
We then compute a differential magnitude $dm_{i,k}$ for each object, where

$$dm_{i,k} = m_{i,k} - m_{i,1}, (k \in [1, N])$$

This method brings all magnitudes to a common ground, ie, referred to their initial measurement: $dm_{i,1} \equiv 0$

Patricio F. Ortiz





Data from ground base, non-calibrated mosaic observations

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- Identification of measurements corresponding to an object in time (short or long scale) for as many objects as possible.

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- Identification of measurements corresponding to an object in time (short or long scale) for as many objects as possible.
- Grouping objects which have been observed "simultaneously".
- Determine the "mean behaviour" (and identifying non-variable objects)
- Identify and classify the light curve of objects which can't be considered non-variable.