Broken stick model (BSM)

* Great for studying shape
* Better than a moving average
* Can set based on level of resolution desired
* Produces a group of profiles with the same resolution
* “A probabilistic broken stick model for studying the primary productive zone (PPZ) across differing sampling strategies”

Moving Minimum

* Good to obtain spikes to study particle distributions
* Not best for shape

QA – fluorescence

* Use a k-means clustering on BGC-argo to detect interference/biofouling
* Variability test
  + Remove profiles of high variability (Sauzede 2015) **Question: how exactly was variability defined**
  + > 20% of total range
* Max depth criteria and min depth criteria
  + Sauzede 10m and 100m
  + Propose use 20 m (this fits best with minimum surface sampling on ships) and 20m + max(MLD, CHL50) where MLD is defined using 0.03 density threshold and CHL50 is the maximum depth 50% chlorophyll levels are reached. **CHL50 or z0?**
* Set background value to 0 ???
  + Last 5 measurements
  + Regression over expedition/float ? – detect sharp decreases – biofouling
* Broken stick model to study shape
  + Reduces the influence of profile variability/noise on shape parameters
  + We can do this independently of the background value
  + Based on a maximum value – this might be dependent on MLD, CHL50 or Z0
  + Picks first and last points around 5m of max and min depth of measurements- using median or mean if n< 3