

option params «**firstOrderOverlapAtStart**»
and «**lastOrderOverlapAtStart**»

rebinnedUnblazedExtractedFlatFieldBlazedShift
for shifts between **minimumShift** and **maximumShift**

for every shift

for every order k with sufficient
overlap on previous order k-1

extract **overlapOrder** from
rebinnedUnblazedExtractedFlatFieldBlazedShift
part of the order k from the **firstUsefulBin[k]**
until the bin corresponding to **lastUsefulBin[k-1]**

extract **overlapPreviousOrder** from
rebinnedUnblazedExtractedFlatFieldBlazedShift
part of order k-1
from the bin corresponding to the **firstUsefulBin[k]**
until **lastUsefulBin[k-1]**

compute **overlapRatio[order]** =
$$\frac{\text{overlapOrder}}{\text{overlapPreviousOrder}}$$

overlapRatioFiltered[order] = median filter **overlapRatio**
median filter sized 2 **halfLengthMedianFilter** + 1

compute **averageRatio[k, shift]** =
average of filtered part of **overlapRatioFiltered[order]**

compute **quality[k, shift]** =
average of $(\text{overlapRatioFiltered[order]} - 1.0)^2$
over all bins in the filtered part
of **overlapRatioFiltered[order]**

offsetIndicatorAverage[shift] =
$$\frac{\sum(\text{averageRatio[shift]} - 1)^2}{\text{lastOrderOverlapAtStart} - \text{firstOrderOverlapAtStart} + 1}$$

offsetIndicatorQuality[shift] =
$$\frac{\sum(\text{quality[shift]})}{\text{lastOrderOverlapAtStart} - \text{firstOrderOverlapAtStart} + 1}$$

where sum is over all orders k

find out for which shift there is a minimum for **offsetIndicatorAverage**
find out for which shift there is a minimum for **offsetIndicatorQuality**

