**Intervals**

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Installs as Intervals2D.

Library for working with x-axis intervals of x-y signals which do not share the same x-axis column. Basic datatypes are:

**Signals**. Contain one x (or t) and one y column, each as scipy (or numpy) array. Both must be of same size.

**Intervals**. List of [t-start, t-stop] pairs (pairs also lists).

Functions:

borders(selected): Selected is a scipy array of integers. Primarily meant as list of indexes. Function returns first and last elements of each block of consecutive integers.

islands(in\_list, low, high=None): Returns index-intervals where in\_list (signal y column) is greater than low and lesser than high if high is provided.

islands\_to\_intervals(tcol, islands): Translates index-intervals into x-col intervals.

make\_intervals(tcol, ycol, low, high=None): wrapper function for islands and islands\_to\_intervals. Returns x-axis intervals where y-value of signal is greater than low and lesser than high if high is specified.

IntervalIntersection(t, q): t and q are lists of intervals. Returns cross section of all overlapping intervals between t and q.

IntervalCleanup(b): Returns list of intervals where overlapping and/or adjacent intervals of b are combined.

InvertIntervals(a, frame=None): Returns intervals outside of input interval. Frame sets start and stop time of intervals, however if a covers a larger area, it will be ignored.

def IntervalDifference(a, b): Returns intervals of a which do not overlap with intervals of b.

focus(x\_list, y\_list, area): Returns portions of x and y columns where x is within defined area. area should be provided as [x-min, x-max] pair.

pin\_point(input\_list, sought\_value): In input\_list, finds nearest value to sought\_value and returns its index.