salford_mic_arc Class Diagram
Red: functionality not implemented

class_name

attribute1 : *attr1_type*
attribute2 : *attr2_type*

method1()
method2()

DSRawTimeSeries

filename : *str*

T : *float*
fs : *int*
fs2 : *int*
t : *(T*fs)-shaped array_like*
t2 : *array_like*

N_mics : *int*
mic_data : *(N_mics, T*fs)-shaped array_like*

_read_hdf5()

filter_data()
estimate_peak_freq()

calc_PSDs()
export_wavs()

MultiChannelPSD

N_mics : *int*
Noverlap : *int*
window : *str*
psd : *(N_ch, Ndft//2+1)-shaped array_like*

df : *float*
fs : *int*
Ndft : *int*
freq : *(Ndft//2+1,)-shaped array_like*

psd_broadband : *(N_ch, Ndft//2+1)-shaped array_like*

bpf : *float*

all_peaks : *(N_ch, N_peaks)-shaped array_like*
all_peak_lims : *(N_ch, N_peaks, 2)-shaped array_like*

broadband_SPL : *(N_ch,)-shaped array_like*
oa_SPL : *(N_ch,)-shaped array_like*

all_peaks_SPL : *(N_ch, N_peaks)-shaped array_like*
tonal_SPL : *(N_ch,)-shaped array_like*

calc_broadband_PSD()

find_all_peaks()
find_peak_lims()

calc_broadband_SPL()
calc_oa_SPL()
calc_all_peaks_SPL()
calc_tonal_SPL()

MultiFilePSD

filenames : *list*
N_blades : *int*

N_azim : *int*
azim_angles : *(N_azim,)-shaped array_like*

nominal_rpm : *float*

Ndft : *int*
Noverlap : *int*
window : *str*

thrust_azim : *(N_azim,)-shaped array_like*
temp_azim : *(N_azim,)-shaped array_like*
rpm_azim : *(N_azim,)-shaped array_like*
bpf_azim : *(N_azim,)-shaped array_like*

azim_PSDs : *(N_azim,)-long list of 'MultiChannelPSDs'*

N_ch : *int*
df : *float*
fs : *int*
freq : *(Ndft//2+1,)-shaped array_like*

broadband_SPL : *(N_azim, N_ch)-shaped array_like*
oa_SPL : *(N_azim, N_ch)-shaped array_like*

bpf_peaks : *(N_azim, N_ch, N_peaks)-shaped array_like*
bpf_peak_lims : *(N_azim, N_ch, N_peaks, 2)-shaped array_like*
bpf_SPL : *(N_azim, N_ch, N_peaks)-shaped array_like*

all_peaks : *(N_azim, N_ch, N_peaks)-shaped array_like*
all_peak_lims : *(N_azim, N_ch, N_peaks, 2)-shaped array_like*
all_peaks_SPL : *(N_azim, N_ch, N_peaks)-shaped array_like*

tonal_SPL : *(N_azim, N_ch,)-shaped array_like*

calc_azim_PSDs()

calc_broadband_SPL()
calc_oa_SPL()

find_bpf_peaks()
find_all_peaks()
calc_bpf_SPL()
calc_all_peaks_SPL()
calc_tonal_SPL()

az_elev_to_polar()

export_directivity()

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root namespace

P_REF : *float*
DEFAULT_NDFT : *int*
DEFAULT_NOVERLAP : *int*
DEFAULT_WINDOW : *str*

calc_spectral_centroid()
calc_ac_power()

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