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()

root namespace

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

calc_spectral_centroid()
calc_ac_power()

MultiChannelPSD

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

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

calc_broadband_PSD()

find_bpf_peaks()
find_all_peaks()
find_peak_lims()

calc_broadband_SPL()
calc_oa_SPL()
calc_all_peaks_SPL()
calc_bpf_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()

References on UML / Class Diagrams:

https://www.visual-paradigm.com/guide/uml-unified-modeling-language/uml-class-diagram-tutorial/

https://www.tutorialspoint.com/uml/uml_class_diagram.htm

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