PWWPatch Zone version_number_major : 1 name: *str* number: *int* version_number_minor : 0 is_structured : boolean calc_thickness_noise: boolean has_loading_data: boolean has_iblank : boolean float_type : 'single' centered_type : { 'node' geometry_header_length: int 'face'} loading_header_length: int units_string : str geometry : None geometry_type : { 'geometry', loading : None __str__() _set_string() geometry_time_type : { 'constant', 'periodic', 'aperiodic'} loading_time_type : { 'constant', 'periodic', 'aperiodic'} StructuredZone loading_data_type : { 'surf_pressure', 'surf_loading_vector', iMax: *int* 'flow_params' jMax: *int* loading_ref_frame : { 'ground_fixed', geometry_info_str: str 'mixed_frame', 'blade_fixed'} geometry_name : str geometry : {StructuredConstantGeometry, geometry_comment : str StructuredAperiodicGeometry, StructuredPeriodicGeometry} loading_comment : str geometry_format_string : list of 'int's loading_name : *str* loading_format_string : list of 'int's loading : { StructuredConstantLoading, StructuredAperiodicLoading, StructuredPeriodicLoading zones : list of 'StructuredZone's zones_with_loading_data : list of 'int's Nt : int n_zones : *int* n_zones_with_loading_data : int _update_geometry_info_str() time_steps : (Nt,) array add_StructuredConstantGeometry() add_StructuredAperiodicGeometry() add_StructuredPeriodicGeometry() add_StructuredConstantLoading() add_StructuredAperiodicLoading() add_StructuredPeriodicLoading() print_info() set_units_string() set_geometry_comment() set_loading_comment() write_geometry_file() write_loading_file() read_geometry_file() read_loading_file() add_StructuredZone() _set_string() _read_XYZblock() _read_IBLANKblock() **StructuredAperiodicGeometry StructuredConstantGeometry** _read_geometry_header() XYZ_coord: (3, iMax, jMax) array XYZ_coord: (Nt, 3, iMax, jMax) array _write_geometry_header() _read_geometry_data() _write_geometry_data() _build_geometry_format_string() normal_coord: (3, iMax, jMax) array normal_coord: (*Nt, 3, iMax, jMax*) *array* iblank: (*iMax*, *jMax*) array, optional iblank: (Nt, iMax, jMax) array, optional _read_loading_header() _write_loading_header() _read_loading_data() time_steps : (Nt,) array _write_loading_data() _build_loading_format_string() _update_n_zones() StructuredConstantLoading StructuredAperiodicLoading pressures: (*Nt, iMax, jMax) array* loading_vectors: (*Nt, 3, iMax, jMax*) *array* flow_params : (*Nt, 5, iMax, jMax*) *array* pressures: (*iMax, jMax*) *array* loading_vectors: (*3, iMax, jMax*) *array* flow_params : (5, iMax, jMax) array time_steps : (Nt,) array

PYWOPWOP Class Diagram

Red: functionality not implemented

References on UML / Class Diagrams:

https://www.visual-paradigm.com/g
uide/uml-unified-modeling-languag
e/uml-class-diagram-tutorial/

https://www.tutorialspoint.com/um
l/uml_class_diagram.htm

UnstructuredZone

_update_geometry_info [TODO]

StructuredPeriodicGeometry

XYZ_coord: (Nt, 3, iMax, jMax) array
normal_coord: (Nt, 3, iMax, jMax) array
iblank: (Nt, iMax, jMax) array, optional
period : float
time_steps : (Nt,) array

StructuredPeriodicLoading

pressures: (*Nt, iMax, jMax) array*loading_vectors: (*Nt, 3, iMax, jMax*) array
flow_params : (*Nt, 5, iMax, jMax*) array

period : float
time_steps : (Nt,) array

Geometry	Structured Constant	Structured Aperiodic	Structured Periodic
Header reader	✓	✓	✓
Data reader	✓	✓	✓
Header writer	✓	✓	✓
Data writer	✓	✓	✓
Class to hold data	✓	✓	✓
StructuredZone "add_XX" method	√	√	√

Loading	Structured Constant	Structured Aperiodic	Structured Periodic
Header reader	✓	✓	✓
Data reader	✓	✓	
Header writer	✓	✓	
Data writer	✓	✓	
Class to hold data	✓	✓	✓
StructuredZone "add_XX" method	√	√	√

PYWOPWOP Class Diagram		
Author	Fabio Casagrande Hirono	
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