## **PWWPatch** Zone version\_number\_major : 1 name: *str* version\_number\_minor : 0 number: int calc\_thickness\_noise: boolean is\_structured : 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 : { geometry\_info\_str: str 'mixed\_frame', 'blade\_fixed'} geometry\_name : str geometry : {StructuredConstantGeometry, geometry\_comment : str StructuredPeriodicGeometry, loading\_comment : str StructuredAperiodicGeometry} geometry\_format\_string : [] loading\_format\_string : [] loading\_name : *str* loading : { StructuredConstantLoading, StructuredPeriodicLoading, StructuredAperiodicLoading} zones\_with\_loading\_data : [] Nt : int n\_zones : *int* n\_zones\_with\_loading\_data : int \_update\_geometry\_info\_str() time\_steps : (Nt,) array add\_StructuredConstantGeometry() add\_StructuredPeriodicGeometry() add\_StructuredAperiodicGeometry() print\_info() add\_StructuredConstantLoading() add\_StructuredPeriodicLoading() add\_StructuredAperiodicLoading() 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() \_read\_geometry\_header() StructuredConstantLoading **StructuredConstantGeometry** \_write\_geometry\_header() \_read\_geometry\_data() \_write\_geometry\_data() \_build\_geometry\_format\_string() pressures: (*iMax, jMax*) *array* loading\_vectors: (*3, iMax, jMax*) *array* flow\_params : (*5, iMax, jMax*) array XYZ\_coord: (*3, iMax, jMax*) array normal\_coord: (3, iMax, jMax) array \_read\_loading\_header() iblank: (*iMax, jMax*) *array*, optional \_write\_loading\_header() \_read\_loading\_data() \_write\_loading\_data() \_build\_loading\_format\_string() \_update\_n\_zones() **StructuredAperiodicGeometry** StructuredAperiodicLoading pressures: (*Nt, iMax, jMax) array* loading\_vectors: (*Nt, 3, iMax, jMax*) *array* flow\_params : (*Nt, 5, iMax, jMax*) *array* XYZ\_coord: (*Nt, 3, iMax, jMax*) array normal\_coord: (*Nt, 3, iMax, jMax*) array iblank: (*Nt, iMax, jMax*) array, optional time\_steps : (Nt,) 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]

<b>StructuredPeriodicGeometry</b>	

StructuredPeriodicLoading

StructuredAperiodicGeometry

Geometry	Structured Constant	Structured Aperiodic	Structured Periodic	
Header reader	✓	✓		
Data reader	<b>✓</b>	<b>✓</b>		
Header writer	<b>✓</b>	✓		
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	<b>✓</b>	<b>✓</b>		

PYWOPWOP Class Diagram		
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