

## #1320: OptiStruct – Amplitude Based MATFAT

**Product:** OptiStruct

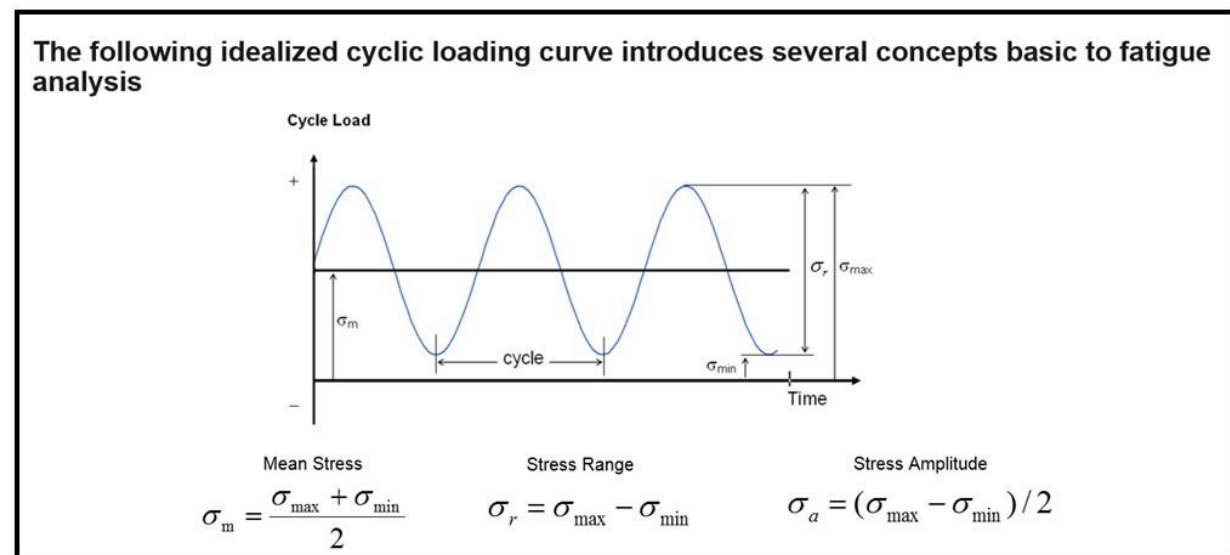
**Product Version:** OptiStruct 2017.2.1 or above

### Topic Objective

Amplitude based MATFAT support in OptiStruct.

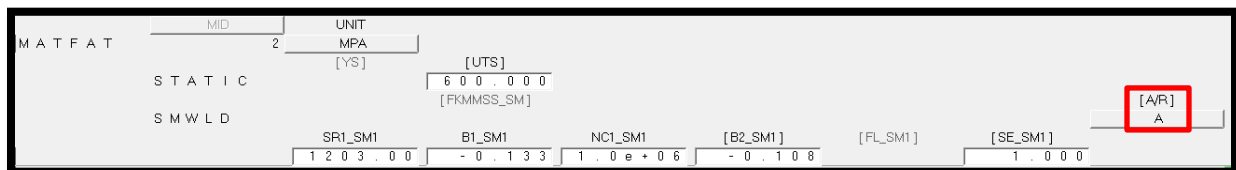
### Topic Detail

The SN curve considered for fatigue calculation could be either Stress-range V/s No. of Cycles or Stress-Amplitude V/S No. of cycles. Until Version 2017.2, only Stress-range based curves were supported. In Version 2017.2.1, we support both. The default is still stress-range based curve.



### How to setup in OptiStruct

- The A/R field on the MATFAT card can be used to switch between stress-range and stress-amplitude based curves.
- A/R defines the interpretation of the defined SN curve.
  - A: The SN curve is defined based on Amplitude.
  - R: The SN curve is defined based on Range.



(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
MATFAT	MID	UNIT							
	STATIC	YS	UTS						
	SN	SR1	B1	NC1	B2	FL	SE		
		FINDLEY	TFP	FKMMSS				A/R	
	SPWLD		FKMMSS_SP					A/R	
		SR1_SP1	B1_SP1	NC1_SP1	B2_SP1	FL_SP1	SE_SP1		
		SR1_SP2	B1_SP2	NC1_SP2	B2_SP2	FL_SP2	SE_SP2		
		SR1_SP3	B1_SP3	NC1_SP3	B2_SP3	FL_SP3	SE_SP3		
	EN	Sf	b	c	Ef	np	Kp	Nc	
		SEe	SEp					A/R	
		tfp	gfp	bg	cg	CoefKp90	Coefnp90	MXLMSTRN	
		FSParm	BMParm						
	SMWLD		FKMMSS_SM					A/R	
		SR1_SM1	B1_SM1	NC1_SM1	B2_SM1	FL_SM1	SE_SM1		
		SR1_SM2	B1_SP2	NC1_SM2	B2_SM2	FL_SM2	SE_SM2		