

#1308: HyperStudy – Fit Automatically Selected by Training (FAST)

Product: HyperStudy

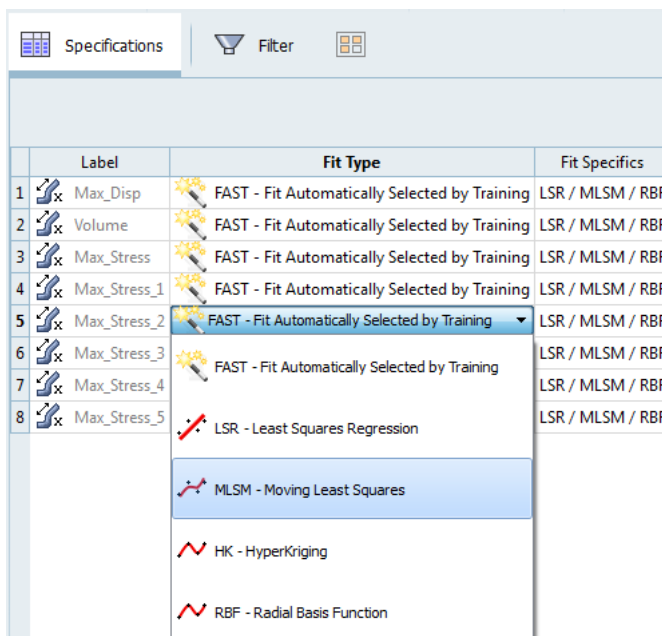
Product Version: HyperStudy 2017.2.2 or above

Topic Objective

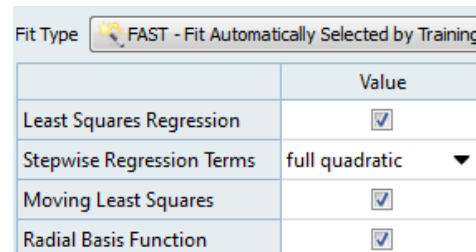
Fit Automatically Selected by Training (FAST) method in HyperStudy.

Topic Details

Fit Automatically Selected by Training (FAST) method is proposed as default choice in the Specifications of a Fit approach.



	Label	Fit Type	Fit Specifics
1	Max_Displacement	FAST - Fit Automatically Selected by Training	LSR / MLSM / RBF
2	Volume	FAST - Fit Automatically Selected by Training	LSR / MLSM / RBF
3	Max_Stress	FAST - Fit Automatically Selected by Training	LSR / MLSM / RBF
4	Max_Stress_1	FAST - Fit Automatically Selected by Training	LSR / MLSM / RBF
5	Max_Stress_2	FAST - Fit Automatically Selected by Training	LSR / MLSM / RBF
6	Max_Stress_3	FAST - Fit Automatically Selected by Training	LSR / MLSM / RBF
7	Max_Stress_4	FAST - Fit Automatically Selected by Training	LSR / MLSM / RBF
8	Max_Stress_5	LSR - Least Squares Regression	LSR / MLSM / RBF



Fit Type: FAST - Fit Automatically Selected by Training	
	Value
Least Squares Regression	<input checked="" type="checkbox"/>
Stepwise Regression Terms	full quadratic ▼
Moving Least Squares	<input checked="" type="checkbox"/>
Radial Basis Function	<input checked="" type="checkbox"/>

Specifications in Fit approach

FAST settings

FAST allows building automatically best fitting functions. To do that, it is testing automatically all the methods available (Stepwise Regression Terms, LSR, MLSM, HK and RBF) and their settings to figure out which one is the most appropriate to obtain best quality fit for each approximated function.

It uses the cross-validation R^2 for comparison purposes. Different methods and settings could be applied in case of several approximated functions: for instance, RBF could be the best method for F1, and MLSM could be the best method for F2. As a result, using FAST considerably simplifies the fit building process.