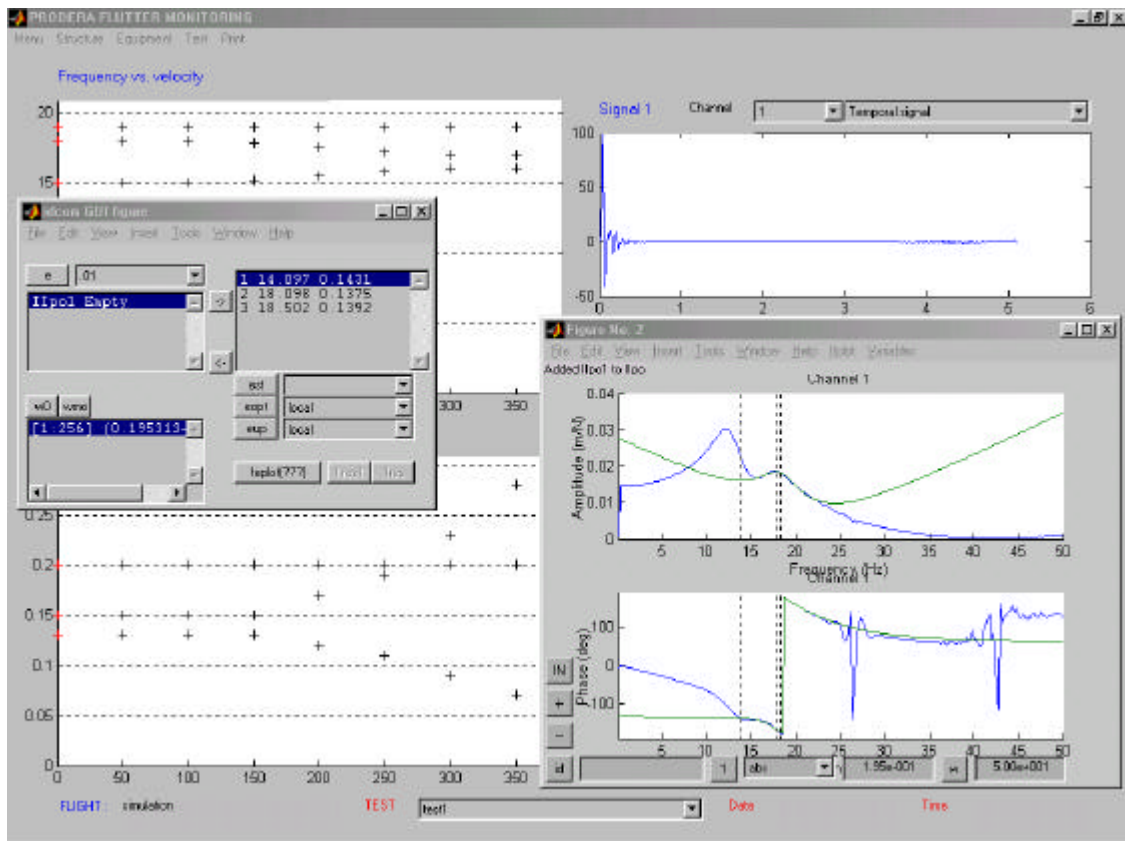


# P-Flutter-Monitoring<sup>®</sup>

## Flight Test Management Software



## MAIN FEATURES

- MATLAB toolbox for real-time monitoring of flight tests
- Specially developed for flight tests using an impulse, harmonic or free air turbulence excitation
- Management of the test conditions
- Computation and display of the frequency vs. velocity and damping factor vs. velocity plots
- Simple and flexible

## APPLICATIONS

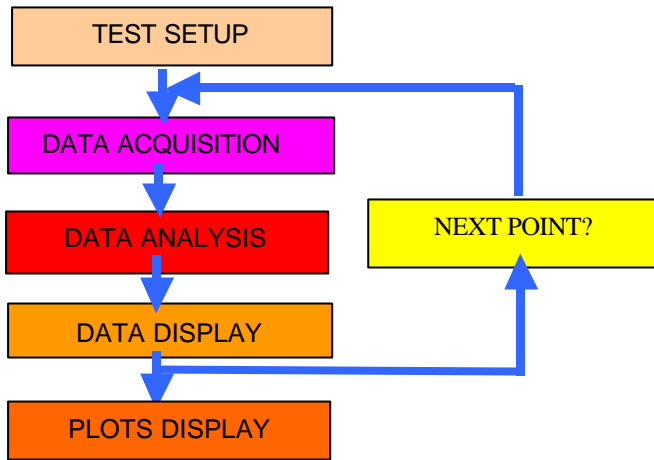
During the aircraft certification procedure, the step that follows the Ground Vibration Tests (GVT) and the Flutter prediction analysis is the flight test.

**P-Flutter-Monitoring<sup>®</sup>** has been developed to perform the acquisition, analysis and management of the in-flight tests using impulse, random or harmonic methods.

**P-Flutter-Monitoring<sup>®</sup>** has therefore been conceived as a modular and flexible software, making simple the adaptation to any existing test configuration.

# DESCRIPTION

**P-Flutter-Monitoring**<sup>®</sup> toolbox is composed of different MATLAB functions regrouped as



## TEST SETUP

Database management for the structure, measurement transducers and excitation conditions.

## DATA ACQUISITION

Acquisition of the response signals via a PCM telemetry system.

## DATA ANALYSIS

Analysis of the acquired data using the **Structural Dynamics Toolbox**.

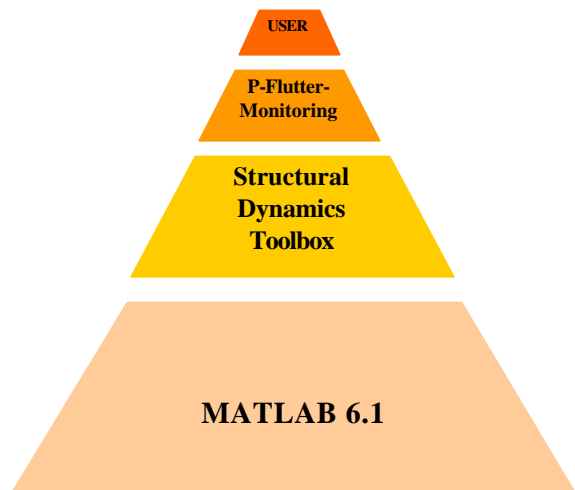
## DISPLAY

Display of the different results.

As a **MATLAB** toolbox, **P-Flutter-Monitoring**<sup>®</sup> software is based on the different capacities of the latest version of **MATLAB**.

Developed for modal analysis, the **Structural Dynamics Toolbox** includes data identification and finite elements computation functions. **P-Flutter-Monitoring**<sup>®</sup> computations are based on these functions that can be completed and upgraded according to the user's special requirements.

**MATLAB** and the **Structural Dynamics Toolbox** are included in the scope of supply.



# SPECIFICATIONS

Structure	Number of nodal points	Max. 32
	Number of modes	No limit of modes
Data acquisition	Data acquisition hardware	32 channel PCI data acquisition board
	Number of excitation forces	Max. 16 pyrotechnical thrusters or measured forces
	Number of responses	Max. 32 responses
Requirements	Hardware	PC-PENTIUM III with 128 Mb. RAM
	Software	MATLAB 6.1 and Structural Dynamics Toolbox 4 (included)

Enclos d'Esquerre - 31380 VILLARIES - FRANCE  
 Phone: (+ 33) 5 61 84 36 98 - Fax: (+ 33) 5 61 84 17 91  
 E-mail: prodera@prodera.com - <http://www.prodera.com>



**PRODERA**

*The manufacturer reserves the right to change technical or mechanical specifications of its products at any time.*

Analysis	Impulse test	Computation of the damping and resonance frequency by analysis of the computed Frequency Response Functions based on the transducers' responses and the excitation forces
	Harmonic test	Computation of the damping factor and resonance frequency by analysis of the Frequency Response Functions acquired directly from the on-board multiplier
	Random test	Computation of the damping factor and resonance frequencies by analysis of the PSD computed from the transducers' responses (Pwelch, FFT, user defined method)
Miscellaneous	Display	Temporal signals, FRF, FFT, mode shapes, frequency vs. velocity plot and damping vs. velocity plot
	Files' format	MATLAB, ASCII files
	Interfaces	P-Win-Modal, UFF files

