CUBUS Program: QanTiM®

QanTiM® software allows the replication of desired response data across single or multi-channel systems using a unique time-domain inverse dynamic model. This can apply to measured acceleration, load or displacement data measured in service or to decouple interaction in multi channel systems.

Features Include:

- Test project oriented save and restore tests, results and acquired data to disk
- Time domain formulation provides unique performance benefits

System configuration

- Multiple actuator and response channel selection
- Simulation bandwidth, include / exclude DC levels, sample rate selection

System identification

- Shaped white noise excitation data generation tools
- System excitation and automated model identification

Iteration

- Control of iteration gains
- Manual or Auto-Iterate to convergence
- Desired and achieved overlay of Time histories, PSD spectrum or Level-cross
- Graphical and tabular display of convergence parameters
- Compare iteration convergence results

Data Management tools

- Data import / export with channel extract and optimised resampling
- Supports file formats for QanTiM, ASCII, RPC-3

Data Generation tools

- Sine, square, Triangle, Sawtooth, Constant, Ramp, Haversine
- Linear sine sweep: Constant Amplitude, Velocity, Acceleration, Sweep Freq & Amp
- Logarithmic sine sweep: Const. Amplitude, Velocity, Acceleration, Sweep Freq & Amp
- Random: Prescribed PSD, Normal, Uniform, Band limited. Define any PSD shape

Data Analysis tools

- Plot of Time history, PSD or Level-cross

- Multiple file and channel selection for overlay plotting; Zoom, Step through, Grid

- Statistics: Max, Min, Mean, RMS, Standard Deviation, Variance, Crest factor

Data Edit tools

- Scale, Add offset, Remove trends, Clip at level

- Interactive graphical data editor: Cut, Join & spline, Enforced level, Zero, Attenuate

- Filter, Integrate, Differentiate, Shift phase, Taper data

Final drive files

- Save final iterated drive files or generated time history data files

- Import directly into Cubus Dura