

## THE FRENCH NATIONAL LIBRARY

PARIS-FRANCE

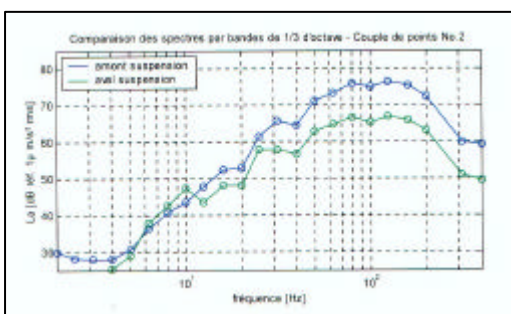
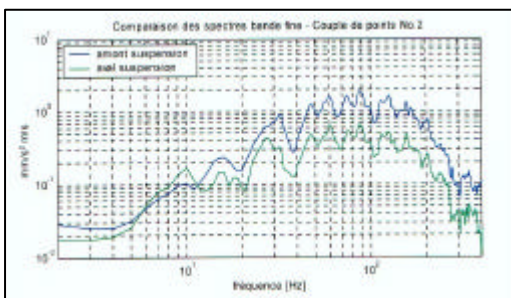
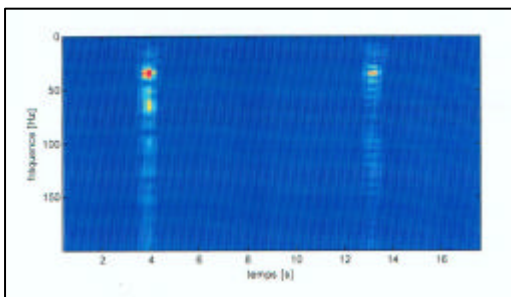
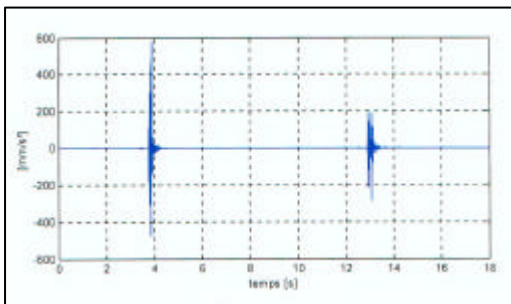
### Vibration analysis to determine the auditorium vibration level

The French National Library build in 1991 is one of the major national libraries in the world storing and archiving several million of books and manuscripts.

SolData is involved since 1999 for structural and vibration monitoring of the

library towers and basement.

The most important part of this survey was to monitor the auditorium which must have a very low residual vibration level. The auditorium is suspended on steady state box to filter mechanical vibrations transmitted to it by the structure with its environment. The campaign of monitoring were made to determine the gain of the steady state system. The train circulation effects was monitored too.



Below : General view of the four towers of the French National Library

On the left from the top to the bottom : signal, analysis time-frequency, spectral comparison in frequency, spectral comparison in third octave frequency range.

OWNER : THE FRENCH NATIONAL LIBRARY

ENGINEERS : THE FRENCH NATIONAL LIBRARY

DATE OF WORK: 1999-2002

#### WORK UNDERTAKEN

- Installation of 8 accelerometers with amplifier for each of them
- Time-frequency analysis
- Reporting