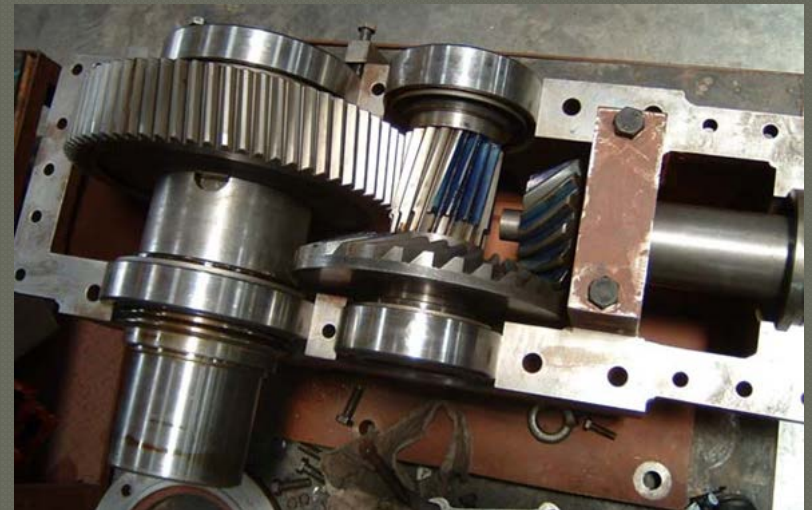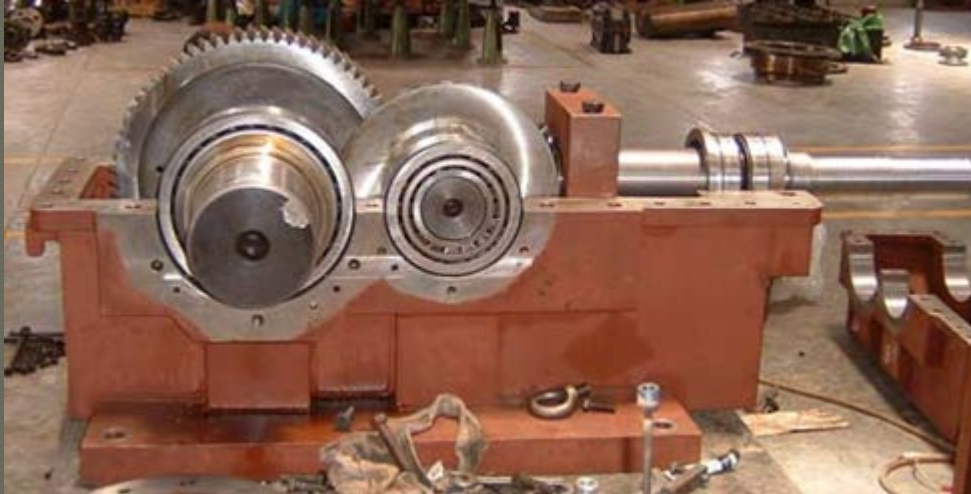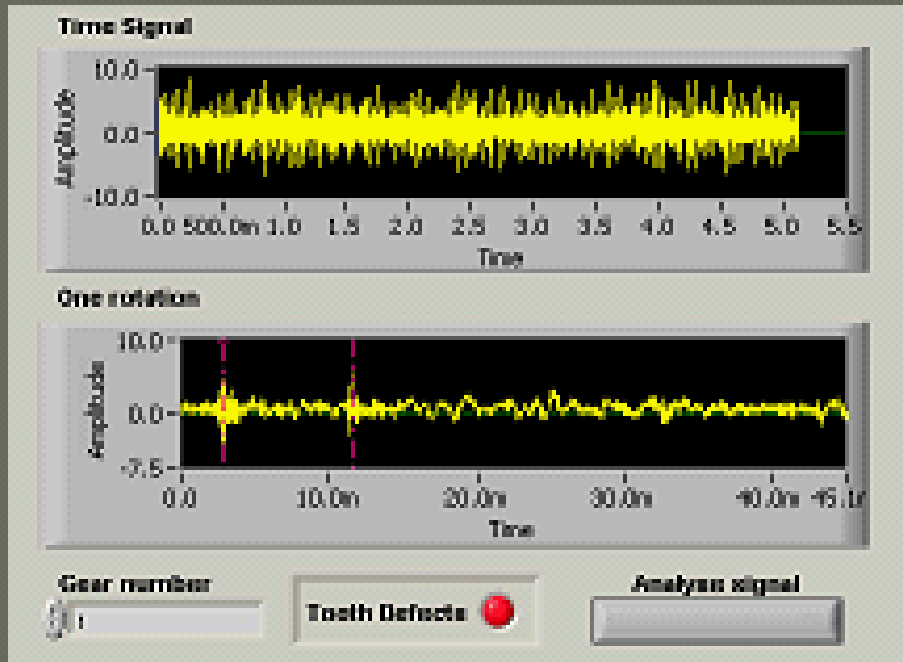# Gear Box Vibration Diagnostics

Gear Box Vibration Diagnostics

Introduction:

Gearboxes play a vital role in the power transmission chain. Their untimely failure can lead to unplanned machine downtime. Hence, Gearbox condition monitoring is of critical importance to both manufacturers and users
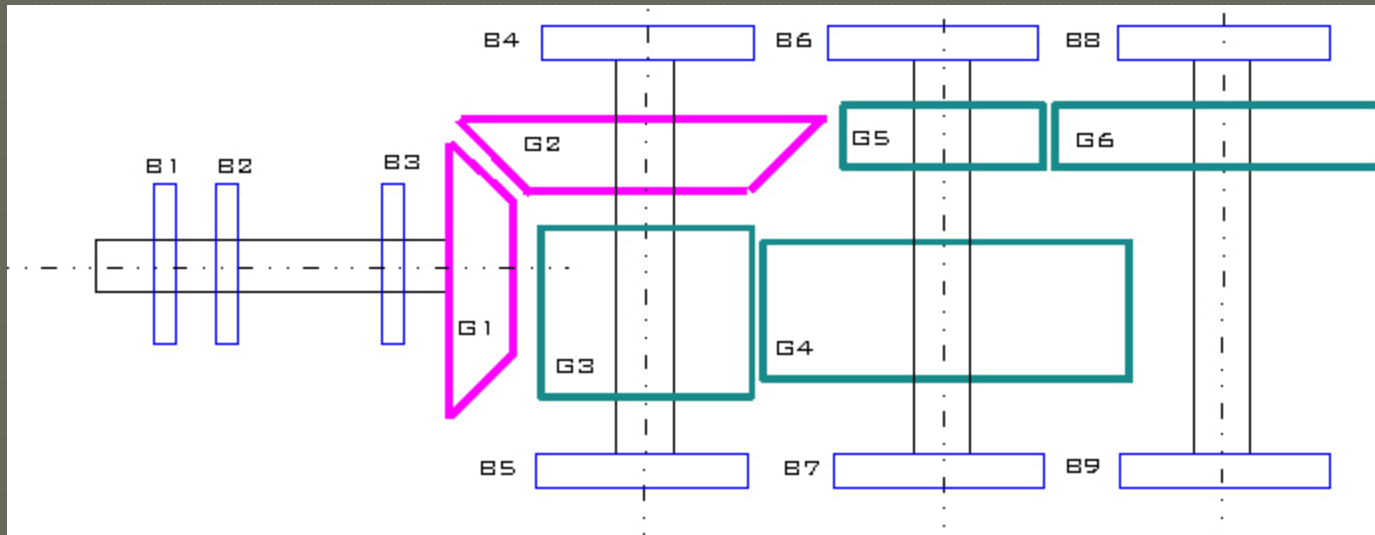
Gear Box Vibration Diagnostics

We, at Quantum Age, have developed a data acquisition, analysis and presentation system which helps engineers to better monitor and plan their maintenance schedule.

The system detects and rates the following defects:

· Eccentricity
· Backlash
· Tooth defects
· Misalignment
· Bearing defects
· Imbalance
· Mechanical Looseness
· Stator/Rotor Defects
· Rubbing

Gear Box Vibration Diagnostics

Gear Schematic

B1,B2,B4,B5,B6,B7,B8,B9 : TAPER ROLLER BEARINGS

B3 : SPHERICAL ROLLER BEARINGS

G1,G2 :BEVEL GEARS

G3,G4,G5,G6 :HELICAL GEARS

Gear Box Vibration Diagnostics

Typical Input Parameters

| | INPUT PARAMETERS | SIGNAL | FFT ANALYSIS | ENVELOPE ANALYSIS |

Input RPM
1330.00

Number of gears
6

Number of pairs
3

Enter Gear Data

Load Data from File

Gear Data

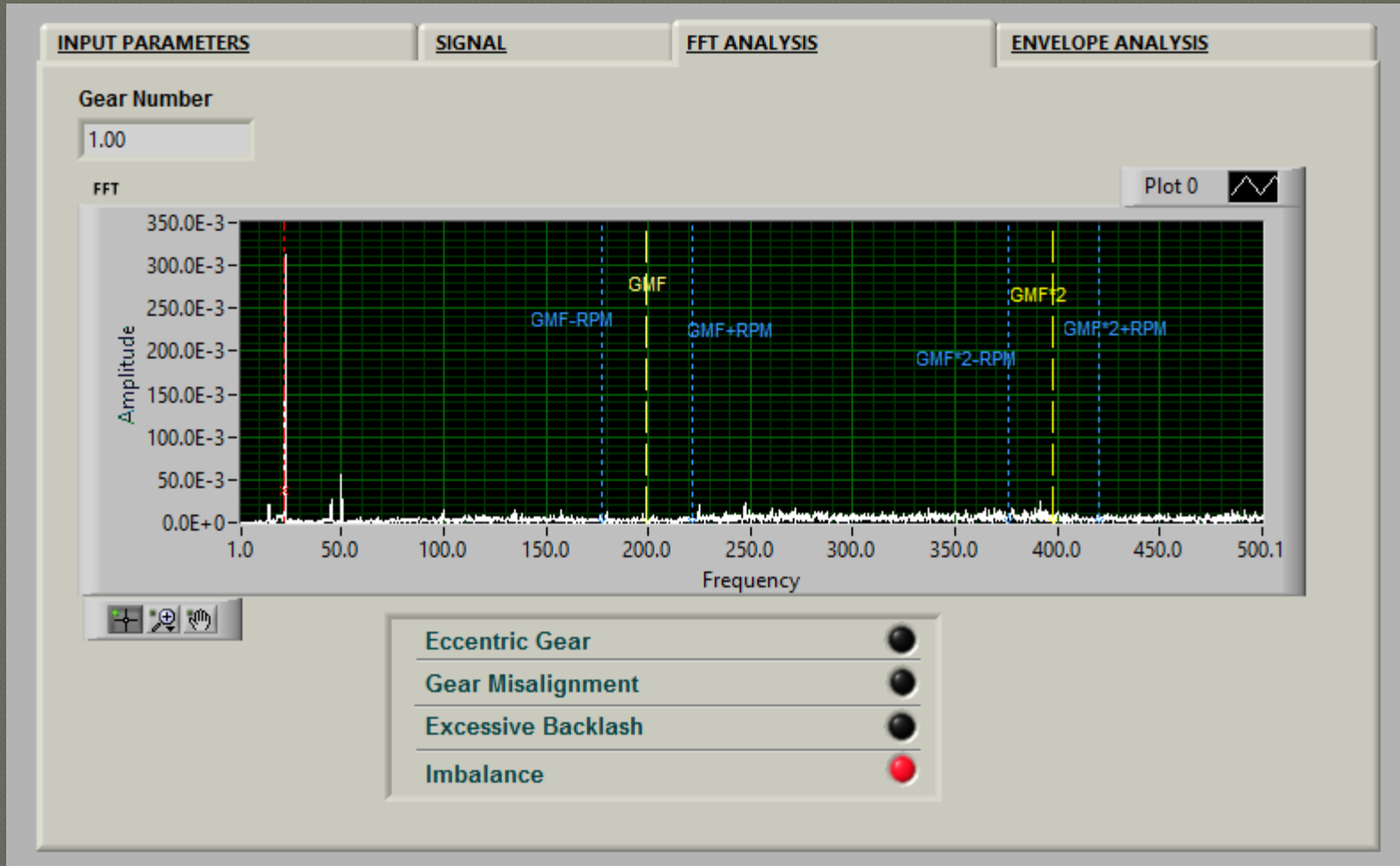| Gear Pair	Pinion gear no.	Bull gear no.	Pinion teeth	Bull gear teeth	O/P Shaft rps	GMF
1	1	2	9	41	4.87	199.50
2	3	4	16	80	0.97	77.85
3	5	6	17	68	0.24	16.54

Gear Box Vibration Diagnostics

Gear Box Vibration Diagnostics

Gear Box Vibration Diagnostics

Gear Box Vibration Diagnostics

Thanks