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Agenda

Rotating Machinery Dynamics Seminar

June 27, 2018

8 a.m.	*Welcome and coffee*
8:30 a.m.	Order Analysis and Tracking • What is an order? How is it calculated? • How are orders measured, simulated and interpreted? • Review of orders generated by common equipment
9:30 a.m.	Torsional Vibration • What is torsional vibration? • How are torsional vibrations measured and analyzed? • Resonances, drivelines, engines and other examples • Lumped parameter models of torsional vibration
10 a.m.	*Break*
10:15 a.m.	Gears • Gear transmission error • Gear sideband orders: eccentric gears and offset rotation
11:30 a.m.	*Lunch*

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12:30 p.m.	Bearings • Bearing frequencies: inner race, outer race, fundamental train frequency • Bearing faults and envelope analysis
1 p.m.	Pumps • Hydraulic pump basics • Cavitation
1:30 p.m.	Electric Motors • AC and DC motors • Combutation orders • Switching frequencies and PWM Controllers
2 p.m.	*Break*
2:15 p.m.	Balancing • Imbalance: mass versus speed effects • Influence coefficients • Shaft centerline plots
2:45 p.m	Angle Domain Processing • Angle versus time data • Viewing data in degrees, revolutions or cycles • Examples of angle domain analysis: piston slap, pilot ignition, etc.
3:15 p.m	Resonances • What is a resonances? How is it identified? • Operational deflection shapes • CAE and test correlation
4:30 p.m.	*Close*