AMS Clinic4
Turbo Pump Failure

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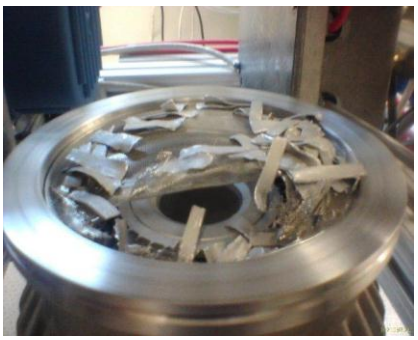
Problem (HR-ToF-AMS)

- Turbo pumps failing frequently (5/year)
- Latest P5 failure was severe:

More on P5 (March 2012)



- Exchange pump
- Takes longer to start
- Vanes locked up after crash
- Scratches - detection cylinder

Questions

- Are we causing these frequent failures?
  - How best to diagnose?
- P5 – Agilent representative:
  - Beyond bearing failure
  - We/controller drove pump > rated rotation
  - Additional charge for damage

Appendix: Repair Log

Location	Date	Problem	Action
Rice	3/1/2011	P6 failed	Replaced with Exchange unit from Agilent-Varian Inc.
Rice	9/22/2011	P3 failed	Replaced with Exchange unit from Agilent-Varian Inc.
Rice	11/8/2011	P4 failed	Replaced with Exchange unit from Agilent-Varian Inc.
Rice	12/4/2011	P4 failed	Replaced with Exchange unit from Agilent-Varian Inc.
Rice	3/20/2012	P5 failed (severe)	Replaced with Exchange unit from Agilent-Varian Inc.

Appendix: Stats

- Latest speed and current

Pump	Hz	Amps
P2	963	449
P3	1350	332
P4	1350	302
P5	963	287
P6	1350	300