Bassem O. Al-Bedoor

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1- Personal Data

DOB: 5 December 1963
Nationality: Jordanian
Marital status: Married with 3 children

2- Education

2.1 University Degrees

Years attended	Degree/Major	Institution/Address	Comments
1982-1987	B.Sc. Mechanical Engineering	King Saud University Riyadh-Saudi Arabia	With honors
1987-1989	M.Sc. Mechanical Engineering	University of Jordan Amman- Jordan	First M.Sc. degree in ME in the university
1991-1995	Ph.D. Mechanical Engineering	King Fahd University of Petroleum & Minerals Dhahran-Saudi Arabia	First Ph.D. degree in ME awarded in Saudi Arabia

2.2 Professional Development Training Courses

1. ***Effective Teaching*** held at King Fahd University of petroleum and Minerals during the period December 06- 08, 1997.
2. ***Machinery Diagnostics*** held in Bently-Nevada Research & Development centre in Minden-Nevada, USA in the period 20-24 July 1998.

3- Awards

⇒ King Fahd University of Petroleum and Minerals **Distinguished Researcher Award**, May 2002.

⇒ Abdul-Hameed Shoman Award for **Young Arab Scientists 2001**, Engineering Sciences

⇒ King Fahd University of Petroleum & Minerals **Recognition Certificate** for working in the preparation for ABET (Accreditation Board for Engineering and Technology), May 2000.

⇒ King Fahd University of Petroleum & Minerals Research council **Recognition Certificate** for chairing the committee on Hiring & Utilization of Graduate Students.

⇒ King Fahd University **Distinguished evaluation (A+)** for the all years 96-2001.

4- Work Experience

4.1 Position and duration

Duration	Title	Institution /Address	Comments
10/2006-pesent	Professor	Mechanical Engineering Department University of Jordan	
1/2007-9/2007	Vice President for R&D	Artesis, Science Park Istanbul, Turkey	Responsible for developing new approach for condition monitoring
9/2002-9/2006	Associate Professor Assistant Dean	Mechanical Engineering, University of Jordan, Amman-Jordan Working on Quality Assurance and ABET Accreditation	Teaching courses on: Mechanics of Machines, System Dynamics and control, Vibration, Experimental Engineering , rotor dynamics
4/2001-9/2002	Associate Professor	King Fahd University of Petroleum & Minerals, Dhahran-Saudi Arabia (On leave)	
1/1996-2/2001	Assistant Professor	King Fahd University of Petroleum & Minerals, Dhahran-Saudi Arabia	Noise and Vibration control, Dynamics and Vibration measurements
9/1991-12/1995	Lecturer	King Fahd University of Petroleum & Minerals, Dhahran-Saudi Arabia	
9/1989-6/1991	Lecturer	King Saud University, Riyadh-Saudi Arabia	
9/1987-6/1989	Teaching Assistant	University of Jordan, Amman-Jordan	

4.2. Short Courses Experience

Date	Institution	Course Title	Role
11/1993	KFUPM-ME	Vibration Analysis and Diagnosis	Taught the topic: Computer aided vibration analysis and design of isolators
1/1994	KFUPM-ME	Vibration Analysis and Diagnosis	Taught the topic: Computer aided vibration analysis and design of isolators
4/1994	KFUPM-CE	Earthquake Engineering	Taught topics on Vibration measurements and analysis
11/1994	KFUPM-ME	Fundamentals of Vibration	Taught topics on Frequency analysis using frequency analyzers
3/1997	KFUPM-ME	Vibrations Measurements, Analysis and Balancing of Rotating Machinery	Taught topics on Fundamentals of Noise & Industrial Noise Measurements
3/1998	KFUPM-ME	Vibrations Measurements, Analysis and Balancing of Rotating Machinery	Fundamentals of Noise. Industrial Noise Measurements. Vibration Isolation and dynamic absorbers
10/1998	KFUPM-ME	Vibrations in Rotating Machinery:	**I Developed & coordinated this**

		Basics, Measurements and Balancing	**course and taught the topics:**
11/1999	KFUPM-ME	Vibrations in Rotating Machinery: Basics, Measurements and Balancing	Fundamentals of rotors dynamics Classification of rotor vibrations.
11/2000	KFUPM-ME	Vibrations in Rotating Machinery: Basics, Measurements and Balancing	Synchronous and non-synchronous rotor response
11/2001	KFUPM-ME	Vibrations in Rotating Machinery: Basics, Measurements and Balancing	Identification of dynamic stiffness. Torsional vibrations: aspects
12/2002	KFUPM-ME	Vibrations in Rotating Machinery: Basics, Measurements and Balancing	
4/2003	KFUPM-ME	Vibrations in Rotating Machinery: Basics, Measurements and Balancing	
12/2004	KFPM-ME	Vibrations in Rotating Machinery: Basics, Measurements and Balancing	

4.3. Laboratory Development Experience

During the period September 1997-2001, I developed the Advanced Mechanics Laboratory (**AML**) in the Mechanical Engineering Department at KFUPM. The laboratory is concentrating on the Vibration of Rotating Machinery. It has the following facilities:

1) Big test rig to simulate and measure the vibrations of blades in rotating machines through strain gages and wireless telemetry systems.
2) To simulate vibration problems in A/C motors and generators
3) To measure and simulate torsional vibration in rotors
4) To measure and simulate problems of Whirling, unbalance and misalignment.
5) To perform balancing and alignment of rotors
6) To measure and simulate Rolling element bearing problems
7) Worked on developing new measurement piezoelectric material sensors (MEMS)
8) Worked on all aspects of measuring systems using strain gages, signal conditioning, transmission and processing.

The laboratory contains all needed measuring sensors, signal conditioning and data acquisition systems. The lab was built over the period of 5 years in close relationship with Bently Nevada Company, which is mainly dealing with rotor dynamics diagnostics, research and development. A study was conducted in the laboratory to compare REBAM pick-ups with the traditional accelerometers method for Rolling Element Bearing vibration analysis.

Currently there are two big research projects undergoing:

- Development of Piezoelectric sensor for blade vibration measurement
- Identification of blade vibration through measuring torsional vibration of the shaft
- Using wireless signal transmission

4.4. Committees and University Services

A- Chairman of the following Committees

⇒ University Committee on Graduate Programs: Hiring & Utilization of Graduate Students, in the academic year 1996/1997.

⇒ Department committee on Teaching and Advising Awards, in the academic year 1996/1997

⇒ Department committee on Teaching and Advising Awards, in the academic year 1997/1998

⇒ Department Textbook Committee, since the start of the academic year 1997/1998 until now

B- Member of the following Committees

Curriculum, graduate, University Health, Security & Safety, College Teaching & Advising Awards, University Convocations, Honours and Public Events, Laboratories safety, Planning, Research, Department ABET, College Quality Control ABET committee, Sixth Saudi Engineering Conference Publications, University Committee on Standing Committees and many other Ad Hoc Committees.

5- Research

5.1. Dissertation, Thesis and B.Sc. Project

Year	Title	Institution
1995	Ph.D. Dissertation Dynamic Modeling and Analysis of Axially Moving Links with Prismatic & Revolute Joints	King Fahd University of Petroleum & Minerals, Dhahran-Saudi Arabia
1989	M.Sc. Thesis Effects of Flow History on the Flow Induced vibration of Rough Interfering Cylinders	University of Jordan, Amman-Jordan
1986	B.Sc. Project On the vibrational analysis of heavy trucks	King Saud University, Riyadh-Saudi Arabia

5.2. Supervision of Graduate Students

1) Khaleel Al-Husain. **Co-advisor**. M.Sc thesis title: "Torsional Vibrations and Fatigue Life Prediction in Synchronous Motors-Driven Compressors". Completed 2000.
2) S. Aidawwisi. **Advisor**. M.Sc. thesis title: " Prediction shaft cracks using the Wavelet transformation". Completed 2001.
3) A. Hamad. **Advisor**. M.Sc. thesis title: "Identification of journal bearing characteristics". Completed 2002.
4) Ahmad Abed, M.Sc., **Advisor**, " Electromechanical dynamic modelling of rotating flexible arms". Completed 2003
5) Sameeh Zahi, M.Sc., **Advisor**, " Dynamics and feedback control of rotating flexible bodies". Completed 2003.
6) Mohammad Noor Shiekh, M.Sc. **Advisor**, " Identification of mechanical faults by monitoring motor stator current signature. Undergoing.
7) Mohammad Al-Saidi, **Co-advisor**, M.Sc., " Application of Multiple scale analysis for the vibration analysis of rotating beams". Undergoing.

5.3. Funded Research Projects

- **Co-Investigator:** Al-Sulaiman F, Khulief Y., **Al-Bedoor B**, Ben Mansor R., Arif AF, Qutub, " Investigation on the root cause of high vibration in the feed water pumps at SEC Quraeyeh Power Plant".
- **Project manager**: **Al-Bedoor B. O,** Al-Qaisia A., Tahboub Z.A, Barghash, M. "Development of predictive maintenance program for the Jordan Petroleum Refinery Company JOPETROL and Condition Monitoring Laboratory at the University of Jordan". Project funded by the National Center for the Development of Human Resources with budjgect of 100,000 USD. Running.
- **Principal investigator**: Al-Bedoor B. O., " Survey to identify the need for predictive maintenance program at Al-Keena paper mill". Completed August 2004.
- **Principal Investigator**: **Al-Bedoor B. O.**, and Ghoti Lahouari, " An Experimental Study on Blade Vibration Measurement in Turbo-machinery" University Funded Project, with 3 years duration and budget of SR 514,800. **Completed.**
- **Co-Investigator**: Spuzic S, Kraisheh M, **Al-Bedoor B. O**, and Faisal M, " Study on the Rolling Sliding Contact Problem and Surface Deterioration", KACST Funded project under the number LGP 3-16. **Completed**.
- **Principal Investigator**: **Al-Bedoor B. O.**, and Sunar M., " Developing a Technique for Blade Vibration Measurement in Turbo-machinery". KACST Funded Project, with 2 years duration and budget of SR 269,000. **Completed**.
- **Co-Investigator**: Sunar M, **Al-Bedoor B. O**, Arif A. F. and Hamdan M. N., " Analytical study for the structural integrity of flat bottom tanks", ARAMCO funded project. **Completed.**

5.4. Services to the Scientific Community

⇒ Member of the organizing committee for the workshop " Vibrations in Rotating Machinery", held in King Fahd University of Petroleum & Minerals in the period April 29-May 1, 2000.

⇒ Member of the American Society of Mechanical Engineers ASME, Pressure & Piping Conference, Operations-Application-Components committee, Atlanta-Georgia, USA, 2001.

⇒ Editor for the Volume ASME-PVP-Vol-426, " Operations, Applications and Components", American Society of Mechanical Engineers, 2001.

⇒ Chairman of the operations and Maintenance subcommittee in the ASME-Pressure & Piping conference, Vancouver-Canada, 2002.

⇒ Developed and chaired a session on rotating machinery in the ASME-PVP conference, Atlanta-Georgia USA, 2001.

⇒ Developed a session on Diagnostics of Rotating Machinery Maintenance for the ASME-PVP conference, Vancouver-Canada, 2002.

⇒ Member of the publications committee for the 6th Saudi Engineering Conference to be held in Dhahran, Saudi Arabia, 2002.

⇒ Developed a special issue on Condition Based Monitoring CBM for the Journal of Quality in Maintenance Engineering JQME 2003.

⇒ Reviewed many papers for the following Journals and Conferences

1. Journal of Sound and Vibration
2. Shock and Vibration Journal
3. Mechanisms and Machine Theory Journal
4. Nonlinear Dynamics
5. International Journal of Rotating Machinery
6. ISROMAC: International Symposium on Rotating Machinery Control
7. Journal of DIRASAT (University of Jordan)
8. 6th Saudi Engineering Conference
9. ASME Pressure Vessels and Piping
10. Vibrations in Rotating Machinery Workshop (WVRM), KFUPM
11. International Conference on Rotor Dynamics, Sydney, Australia, September 30 to October 3, 2002.

5.5. Conference Presentations

1- "*Dynamic analysis of mechanical systems with elastic telescopic members*", **ASME Design Technical conference, Minnesota-Mn, USA, September. 1994.**

2- **"***On the flow induced vibration of a single circular cylinder***", Second Saudi Symposium On energy, Utilization and Conservation, King Fahd University of Petroleum and Minerals. Paper 1994**

3- "Vibrations of rotating flexible blade with flexible coupling in the drive system", **Joint ASME/JSME 1998 conference on Pressure Vessels and Piping San Diego-USA , July 26-30, 1998.**

4- "Minimisation of transient torsional vibrations of synchronous motors driven compressors", Joint **ASME/JSME 1998 conference on Pressure Vessels and Piping San Diego-USA, July 26-30, 1998.**

5- "On the coupled lateral and torsional vibrations of unbalanced rotors", **Vibrations in Rotating Machinery Workshop (WVRM), KFUPM, Dhahran-Saudi Arabia April 29, 2000.**

6- "Nonlinear natural frequencies of rotating flexible arms", **Vibrations in Rotating Machinery Workshop (WVRM), KFUPM, Dhahran-Saudi Arabia April 29, 2000**.

7- "Application of wavelet transformation for the analysis of vibration signals", **ASME 2001 conference on Pressure Vessels and Piping, Atlanta, Georgia-USA, July 22, 2001**

8- "Nonlinear dynamic model of rotating flexible arm supported on flexible base", **ASME 2001 conference on Pressure Vessels and Piping, Atlanta, Georgia-USA, July 22, 2001.**

9- "Discussion of the available methods for blade vibration measurement", **ASME 2002 conference on Pressure Vessels and Piping, Vancouver, Canada, August 8, 2002.**

5.6. Keynote Speeches & Invited Lectures

⇒ **Keynote speaker** in the Condition Based Monitoring Symposium held in KFUPM, Dhahran-Saudi Arabia, April 3, 2001, " Condition Based Monitoring of Rolling Element Bearings".

⇒ **Invited Lecturer** by the Vibration Institute-Saudi Arabia Chapter and Bently Nevada Company, Dhahran-Saudi Arabia, October 2000, "Comparison Between Signals form REBAM and Accelerometer for Rolling Element Bearing Monitoring-A study".

6- Publications

6.1. Journal Publications

1 B. Jubran, M. Hamdan and **B. Al-Bedoor**, "*Roughness and turbulence intensity effects on the induced flow oscillation of a single cylinder*", **Int. Journal of Applied Scientific Research, vol. 49, pp. 101-115, 1992 .**

2 B. Jubran, M. Hamdan and **B. Al-Bedoor**, "*Interference and turbulence intensity effects on flow induced vibration of smooth and rough cylinders*". **Journal of Fluids and Structures, Vol. 7, pp.457-470, 1993.**

3 **B. O. Al-Bedoor** and Y. Khulief, *"Vibrational motion of an elastic beam with prismatic and revolute joints"*. **Journal of Sound and Vibration, Vol. 190, No.2 pp.195-206, 1996.**

4 **B. Al-Bedoor** and Y. Khulief, "*An approximate analytical solution of beam vibrations during axial motion*" , **Journal of Sound and Vibration., Vol. 192, No. 1, pp.159-171, 1996.**

5 **B. O. Al-Bedoor** and Y. Khulief, " *Finite element dynamic modeling of A translating and rotating flexible link*", **Computer Methods in Applied Mechanics and Engineering, Vol. 131, pp.173-189, 1996.**

6 **B. O. Al-Bedoor** and Y. A. Khulief, "*General Planar Dynamics of A Sliding Flexible Link*" **Journal of Sound and Vibration, Vol. 206, No. 5, pp.641-661, 1997.**

7 **B. O. Al-Bedoor**, Book Review: "*Vibrations and Stability: Order and Chaos by J.J. Thomsen*", **The Arabian Journal for Science and Engineering, Vol. 22, No. 2B, PP. 335-336, 1997.**

8 **B. O. Al-Bedoor** and A. Almussalam, *"Dynamic response of circular cylinders in cross*

flow", **International Journal of Wind Engineering & Industrial Aerodynamics, Vol. 66, PP. 69-84, 1997.**

9 **B. O. Al-Bedoor**, " *Dynamic model of coupled shaft torsional and blade bending deformations in rotors*", **Journal of Computer Methods in Applied Mechanics and Engineering, Vol. 169, No. 1-2, PP. 177-190, 1999**.

10 **B. O. Al-Bedoor**, K. A. Moustafa and K. Al-Hussain, "*Dual dynamic absorber for transient torsional vibrations in synchronous motor driven compressors*", **Journal of Sound and Vibration, Vol. 220, No. 4, pp. 729-748, 1999**.

11 **Al-Bedoor, B. O.**, and Almusallam A. A., "*Dynamics of Flexible-link and Flexible-joint Manipulator carrying a Payload with Rotary Inertia*", **Mechanisms and Machine Theory. Vol. 35, pp. 785-820, 2000.**

12 **Al-Bedoor, B. O.**, "*Transient Torsional and Lateral Vibrations of Unbalanced Rotors with Rotor-To-Stator Rubbing*", **Journal of Sound and Vibration, Vol. 229, No. 3, pp. 627-645, 2000**.

13 **B. O. Al-Bedoor**, "*Reduced order Nonlinear Dynamic Model for the coupled Blade Bending and Shaft Torsional Vibrations*". **ASME journal of Engineering for Gas Turbines and Power, Vol. 123, No.1, pp. 82-88, January 2001.**

14 **Al-Bedoor, B. O.**, Moustafa K. A. and Al-Hussain K. M., "*Predicting the Fatigue Life of Synchronous Motor-Driven Compressors Using the Complex Modal Reduction Technique* ", **Computer Methods in Applied Mechanics and Engineering. Vol. 187, pp. 53-68, 2000.**

15 **B. O. Al-Bedoor**, " *Modeling the coupled Lateral and Torsional Vibrations of Unbalanced Rotors* ". **Computer Methods in Applied Mechanics and Engineering., Vol. 190, pp. 5999-6008, 2001**

16 M. N. Hamdan, A. A. Al-Qaisia and **B. O. Al-Bedoor**, "*Comparisons of analytical techniques of nonlinear vibrations of a parametrically excited cantilever*". **International Journal of Mechanical Sciences, Vol. 43, No. 6, pp. 1521-1542, 2001**.

17 A. A. Al-Qaisia, **B. O. Al-Bedoor** and M. N. Hamdan, "*On the steady state response of a cantilever beam partially immersed in fluid and carrying and intermediate mass*". **Shock and Vibration Journal, Vol. 7, pp. 179-194, 2000**.

18 **B. O. Al-Bedoor** and M. N. Hamdan ," *Geometrically nonlinear dynamic model of a rotating beam"* **Journal of Sound and Vibration, Vol. 240, pp. 59-72, 2001**.

19 M. N. Hamdan and **B. O. Al-Bedoor**, "*Nonlinear free vibration frequencies of a rotating flexible arm"* **Journal of Sound and Vibration, Vol. 242, pp. 839-853, 2001**.

20 S. A. Adewusi and **B. O. Al-Bedoor**, "*Experimental study on the vibration of overhung rotor with propagating transverse crack*", **Shock and Vibration Journal, Vol. 9, No. 3, pp.91-104,2002.**

21 S. A. Adewusi and **B. O. Al-Bedoor**, "*Wavelet analysis of vibration signals of an overhang rotor with a propagating transverse crack*", " **Journal of Sound and Vibration, Vol. 246, No. 5, pp. 777-793, 2001.**

22 **B. O. Al-Bedoor,** A. El-Sinawi and M. N. Hamdan , **"** *Nonlinear dynamic model of an inextensible rotating flexible arm supported on flexible base*", **Journal of Sound and Vibration, Vol. 251, No. 5, pp767-781, 2002.**

23 Y. Al-Nassar and **B. O. Al-Bedoor** " *On the vibration of rotating blades with torsionally flexible shaft"* Submitted to the **Journal of Sound and Vibration , 2002.**

24 **B. O. Al-Bedoor** and M. Sunar, "Preliminary experiments on using root-embedded piezoelectric sensors for blade vibration in turbomachinery", submitted to **ASME Journal of Vibration and Acoustics, 2003.**

25 M. Sunar and **B. O. Al-Bedoor**, "Finite element model for using embedded piezoelectric material embedded at blades root for vibration measurement", submitted to **ASME Journal of Vibration and Acoustics, 2003.**

26 **B. O. Al-Bedoor** S. Aidwesi and Y. Al-Nassar, "Model for the extraction of blade vibration signature form shaft torsional vibration signals", (submitted to the **ASME Journal of Gas Turbines and Power), 2003.**

27 **B. O. Al-Bedoor**, "The Available methods for blade vibration measurement: the Current Status", **The Shock and Vibration Digest, Vol. 34, No. 6, pp. 455-461, 2002**

28 **B. O. Al-Bedoor**, L. Ghoutti, S. Aidwesi, Y. Al-Nassar and M. AbdulSamad, "Experiments on extracting blade vibration signature from the shaft torsional vibration signals", **Journal of Quality in Maintenance Engineering, Vol. 9, No. 2, pp144-159, 2003.**

29 **B. O. Al-Bedoor**, Y. Al-Nassar, L. Ghoutti, S. Aidwesi and M. ABdulSamad, "Shaft lateral and torsional vibration responses to blades random vibration excitation", **The Arabian Journal for Science and Engineering, Vol. 29, Number 1C, pp. 39-67, 2004.**

30 **B. O. Al-Bedoor** and A. Al-Qaisia , "*Stability analysis of rotating blade bending vibration due to torsional excitation*", **Journal of Sound and Vibration, Vol. 282, pp. 1065-1083, 2005.**

31 A. Al-Qaisia and **B. O. Al-Bedoor**, *"Evaluation of different methods for the considertation of the effect of rotation on the stiffening of rotating beams"* , **Journal of Sound and Vibration, Vol. 280, pp. 531-553, 2005.**

6.2. Conference Publications

1 **B. O. Al-Bedoor** and Y. Khulief, *"Dynamic analysis of mechanical systems with elastic telescopic members"*, **ASME Design Technical conference, Proceedings on Machine Elements and Machine Dynamics, DE-Vol-71. pp. 337-342, Minnesota-Mn, Sept. 1994.**

2 **B. O. Al-Bedoor**, M. N. Hamdan and B. Jubran, *"On the flow induced vibration of a single circular cylinder"*, **Second Saudi Symposium On energy , Utilization and Conservation, King Fahd University of Petroleum and Minerals. Paper number 23.4. 1994.**

3 **B. O. Al-Bedoor** , B. Jubran, M. Hamdan and A. Almussalem, *"Interference effects on the flow induced vibrations"*. **the Fourth Saudi Engineering Conference- Jeddah , Vol. IV, pp.285-292, November 1995.**

4 **B. O. Al-Bedoor** and Y. Khulief, *"Effects of Flexibility on the Open Loop Control of Flexible Robot Arms"*, **ASME Applied Mechanisms and Robotics - Cincinnati, Ohio (Paper No. AMR-95-110), 1995.**

5 **B. O. Al-Bedoor** and Y. A. Khulief *"Finite element dynamic modeling of elastic beams with prismatic joint"* **ASME 21st Annual Design Automation Conference, DE Vol 82, No. 1 , PP. 609-616, Boston-USA, Sept. 1995.**

6 **B. O. Al-Bedoor**, *"Vibrations of rotating flexible blade with flexible coupling in the drive system"*. **Joint ASME/JSME 1998 conference on Pressure Vessels and Piping San Diego, PVP-Vol.376- PP.69-76, July 26-30, 1998.**

7 **B. O. Al-Bedoor**, K. A. Moustafa and K. Al-Hussain, " *Minimization of transient torsional vibrations of synchronous motors driven compressors*". **Joint ASME/JSME 1998 conference on Pressure Vessels and Piping San Diego, PVP-Vol. 376, PP. 1-9, July 26-30, 1998**

8 **B. O. Al-Bedoor,** Hamdan M. N. and Al-Qayseyah A., *"Non-linear Natural Frequencies of A Cantilever Beam Partially Immersed in Fluid and Carrying an Intermediate Mass"*, **Proceedings of the ASME Pressure Vessels and Piping Conference, American Society of Mechanical Engineers, ASME PVP-Vol.396, pp. 261-267, 1999,.**

9 **B. O. Al-Bedoor,** *"Effects of Shaft-Torsional and Blade-Bending Natural Frequencies Relation on the Dynamics of Shaft-Disk-Blade System"*, **Proceedings of the ASME Pressure Vessels and Piping Conference, American Society of Mechanical Engineers, ASME PVP-Vol. 395, (1999), pp. 83-90, 1999.**

10 S. A. Adewusi and **B. O. Al-Bedoor**, *"Application of Wavelet Transformation in the Analysis of Vibration Signals"*, **Proceedings of the ASME Pressure Vessels and Piping Conference, American Society of Mechanical Engineers, ASME PVP-Vol. 395 , pp. 183-191, 2001.**

11 A. Elsinawi, M. Hamdan and **B. O. Al-Bedoor**, "*Nonlinear Dynamic Model of an Inextensible Rotating flexible Arm Supported on Flexible Base* ", **Proceedings of the ASME Pressure Vessels and Piping Conference, American Society of Mechanical Engineers, ASME PVP-Vol. 395, pp. 193-201, 2001.**

12 M. Sunar and **B. O. Al-Bedoor**, "*Finite element model for using embedded piezoelectric material embedded at blades root for vibration measurement*", **IUATAM Conference Proceedings, Japan, May 2002.**

13 **B. O. Al-Bedoor,** "*Discussion Of The Available Methods For Blade Vibration Measurement In Turbomachinery*", **Proceedings of the ASME Pressure Vessels and Piping Conference, American Society of Mechanical Engineers, Vancouver-Canada August 2002.**

14 S. Aidwesi and **B. O. Al-Bedoor,** "*Application of Neural Networks to Detect Shaft Cracks* ", **Proceedings of the ASME Pressure Vessels and Piping Conference, American Society of Mechanical Engineers, Vancouver-Canada August 2002.**

15 **B. O. Al-Bedoor** and A. Al-Qaisia, "*Steady State Harmonic Balance Solution of Blade Vibration Under the Effect of Shaft Torsional Excitation*", **Proceedings of the ASME Pressure Vessels and Piping Conference, American Society of Mechanical Engineers, Vancouver-Canada August 2002.**

16 **B. O. Al-Bedoor** and L. Ghoutti, "*On the investigation of vibration signals using joint time frequency analysis*", **6th Saudi Engineering Conference, 2002, Dhahran Saudi Arabia.** (Accepted for publication)

6.3. Report Publications

1) Spuzic S, Kraisheh M, **Al-Bedoor B. O**, and Faisal M, " *Study on the Rolling Sliding Contact Problem and Surface Deterioration*", **King Abdulaziz for Science and Technology KACST Report number LGP 3-16, 1999.**

2) **B. O. Al-Bedoor,** S. Adewsi and A. Al-Saeed, " *REBAM versus accelerometers signals for Rolling Element Bering: A laboratory Study*". Report submitted to **Bently Nevada Research Centre, Minden-Nevada, USA, 2000**.

3) Sunar M, **Al-Bedoor B. O**, Arif A. F. and Hamdan M. N., "*Analytical study for the structural integrity of flat bottom tanks*", **ARAMCO report # ME 2205, 2001.**

4) **B. O. Al-Bedoor** and M. Sunar, " *Development of a Technique for Measuring Blade Vibration: First Progress Report*", Submitted to **King Abdulaziz City for Science and Technology KACST, Report AR-19-14, April 2002.**

7- References

⇒ Professor Khalid Touqan, Minster of Education, Amman- Jordan.

⇒ Professor Mohammad O. Budair, Vice Rector for Graduate Studies and Scientific Research, King Fahd University of Petroleum & Minerals, Dhahran 31261, Saudi Arabia. Email: mobudair@kfupm.edu.sa

⇒ Professor M. M. Elmadany, Mechanical Engineering Department, College of Engineering 11421, College of Engineering, Box 800, King Saud University, Riyadh-Saudi Arabia. Email: mmadany@ksu.edu.sa

⇒ Professor Nasri Al-Rabadi, Dean College of Engineering, University of Jordan, Amman-Jordan, Email rabadi@ju.edu.jo.

⇒ Dr. Samir Al-Bayyat, Dean College of Engineering, King Fahd University of Petroleum & Minerals, Dhahran 31261, Saudi Arabia