

LIST OF SCIENTIFIC PUBLICATIONS

DINO BOUSSO

Theses

M.Sc. Thesis, "The viscosity of air at high rates of shear". (1960).

D.Sc. Thesis, "A stability criterion for rotating shafts". (1963).

Papers

1. Bousso, D., "The viscosity of air at high rates of shear", Bull. Res. Council of Israel, 7C, 3, 136-140, (Dec.1959).
2. Bousso, D., "The viscosity of air at high rates of shear", Bull. Res. Council of Israel, 10C, 3, 109-119, (Nov.1961).
3. Bousso, D., "Observations on the self-acting air thrust bearing effect", Proceedings of the International Symposium on Second Order Effects in Elasticity, Plasticity and Fluid Dynamics. Pergamon Press, Macmillan Co., N.Y. 1964 (483-492).
4. Bousso, D., "A New Mechanical Squarer". Israel Journal of Technology, 2, 3, 5, (1964).
5. Bousso, D. and Ishai, O., "A new technique for measuring stress losses in short prestressed concrete specimens". Journal ASTM, 2pp. (Dec.1964).
6. Bousso, D. and Shelef, L., "A new instrument for measuring relaxation in flour dough". Rheologica Acta 6pp. (May 1964).
7. Bousso, D., "Rolling wheel function generators and integrator", Machine Design, p.4, (Mar.4,1965).
8. Bousso, D., Scanning the field for ideas. "Discharge-inlet depth controls flush volume," Machine Design, April 28, 1966.
9. Bousso, D., Scanning the field for ideas. "Inflatable pouches form rotary actuator," Machine Design, May 25, 1967.
10. Bousso, D., "Some aspects of the design of a new rotary actuator". Essay submitted to the Royal Society of Arts as entry for 1967 Howard Prize (12 pp.) Mention received
11. Bousso, D. and Shmueli, M., "Internal damping as a primary source of energy loss in rolling friction." Lecture delivered at the Second Conference of Mechanical Engineers in Israel, April 1968. Published in the Proceedings in August 1968.
12. Bousso, D., "A New Rotary Actuator." Lecture delivered at the Second Conference of Mechanical Engineers in Israel, April 1968. Published in the Proceedings in Aug. 1968.
13. Bousso, D., "An experimental gas-powered, six degree-of-freedom limb for thalidomide children". Bio-Medical Engineering, July 1969.
14. Bousso, D., "A new limb for thalidomide children" Third International Symposium on External Control of Human Extremities, Dubrovnick, August 25-31, 1969.

15. Bousso, D., "A stability criterion for rotating shafts". Submitted for publication.
16. Bousso, D. & Ben-Amots, N., "A new means for attaining high centrifugal accelerations". Submitted for publication.
17. Bousso D., & Simkin, A., "Measuring the mechanical properties of miniature bone specimens". Accepted for publication in "Journal of Biomechanics".
18. Bousso, D., "A double-acting rotary actuator for prosthetic purposes". To be published in the proceedings of the IVth International Conference, Interbor, Torino, May 1970.
19. Bousso, D. & Shohet, U., "Stability equations for a linear pouch actuator." Israel Journal of Technology, 8, 4, 357-366 (1970).
20. Bousso, D. & Ishai, G., "On the use of myo-electric signals for multiple degree-of-freedom prosthesis control." Accepted for publication in "Bio-Medical Engineering."

#### Reports

1. Developing of Methods for simplifying prestressing and anchoring techniques in prestressed walls. MS-21, November 1964.
2. Study of stress-losses in prestressed walls. MS-21, November 1964.
3. Study of stress-losses in prestressed walls. MS-21, April, 1965.
4. Report on work carried out under ICI Fellowship, Department of Engineering Science, Oxford University, Developments in Powered Prostheses, covering the period October 1965 - September 1966.
5. Same as above for October 1966 - September 1967.
6. Developments in Powered Prostheses. Project 120-063, Department of Mechanics, Technion, October 1967 - September 1968. Report TDM 69-1.
7. Bousso, D. & Ishai, G., "On the use of myo-electric signals for multiple degree-of-freedom arm prosthesis control". October 1967-September 1969. Report TDM 69-1.
8. Bousso, D & Shohet, U., "Stability equations for a linear pouch actuator" October 1967 September 1969. Report TDM 70-5.

#### Books

- "Dynamics of Machinery" and "Mechanical Vibrations" - Lecture notes and class exercises. Technion Students Association publication.
- "The Tensor Calculator". An instruction booklet on the transformation equations of second rank tensors and the tensor calculator (16 pages). Fearn's Calculators, Newcastle-upon-Tyne, U.K.

Inventions and Patents

1. Mechanical Mohr circle for transformation of second-degree tensors.
2. Gearless differential with self-locking antislip features.
3. Stepless variable voltage transformer.
4. Mechanical function generator for  $e^x$ .
5. Mechanical function generator for  $\tan x$ .
6. Mechanical multiplier.
7. Mechanical squarer.
8. Mechanical function generator for  $x^n$  ( $n =$  any real number).
9. Mechanical integrator.
10. Mechanical linear range finder.
11. Wire tensioning jack (in collaboration with O. Ishai).
12. Wire anchoring washer (in collaboration with O. Ishai).
13. Rotary actuator, hydraulic and pneumatic.
14. Linear actuator, hydraulic and pneumatic.
15. Dual capacity flushing system.
16. Rubber torsion spring.
17. Miniature gas valve.
18. New powered prosthesis.
19. Ribbon slide rule.
20. New braking system for vehicles.
21. High strength polymer seamless belt.
22. Ultra-high-speed bearingless rotor drive (750,000 rpm).
23. New steel torsion spring.
24. Double-acting rotary actuator.

Professional Projects

Vibrations Survey of M.T. Nova (80,000 ton tanker) for ZIM. The report consists of quantitative data on the vibrations, an analysis determining their source and proposals for remedial measures.