4th International Symposium on Jet Cutting Technology

April 12th - 14th, 1978, University of Kent at Canterbury, U.K.

CONTENTS

(Volume 1)

Page

The following papers were presented at the Symposium:

Paper

A1	Water jet nozzle performance tests. C.R.Barker and B.P.Selberg, University of Missouri-Rolla, U.S.A.	A1-1
A2	A study of the effect of nozzle configuration on the performance of submerged water jets. F.Erdmann-Jesnitzer, H.Louis and A.M.Hassan, Technical University of Hanover, Federal Republic of Germany.	A2-21
A3	Flow characteristics of water jets in air. K.Yanaida, Osaka Prefectural Technical College, Japan, and A.Ohashi, Konoike Construction Co. Ltd., Japan.	A3-39
A4*	The effect of nozzle geometry on the turbulent structure of water jets-	
	a photographic study. P.F.Thorne and C.R.Theobald, Building Research Establishment, Fire Research Station, U.K.	
B1	A numerical study of nozzle design for pulsed water jets. D.G.E.Edwards and D.J.Welsh, University of Surrey, U.K.	B1-1
B2	Erosion by an interrupted jet. A. Lichtarowicz and G.O. Nwachukwu, University of Nottingham, U.K.	B2-13
C1	Application of water-jet assisted pick cutter for rock fragmentation. FD. Wang and J. Wolgamott, Colorado School of Mines, U.S.A.	C1-1
C2	Water jet breaking of imitation hot dry rock. H.Kiyohashi, M.Kyo and W.Ishihama, Tohoku University, Japan.	C2-7
C3	Waterjet drilling of small diameter holes. S.D. Veenhuizen and J.B. Cheung, Flow Industries Inc., U.S.A., and J.R.M.Hill, Bureau of Mines, U.S.A.	C3-29
C4	The development of a water jet drilling system and preliminary evaluations of its performance in a stress situation underground. D. A. Summers and T. F. Lehnhoff, University of Missouri-Rolla, U.S.A., and L.A. Weakly, St. Joe Mineral Corporation, U.S.A.	C4-41
C5	Cutting rocks and other materials by cavitating and non-cavitating jets. M. M. Vijay and W. H. Brierley, National Research Council Canada.	C5-51

		Page
D1	Design and test of an inlet-nozzle device. P.D. Lohn and D.A. Brent, TRW Systems and Energy, U.S.A.	D1-1
D2	Design and dynamic response of a pulse-jet pavement breaker. U.H.Mohaupt and D.J.Burns, University of Waterloo, Canada, G.G.Yie, Institute of Gas Technology, U.S.A. and W.Mellors, Cosmoton Ltd., Canada	D2-17
D3	Jet cutting of metals with Pyronol torch. A.G.Rozner and H.H.Helms, Jr., Naval Surface Weapons Center, U.S.A.	D3-29
E1	Erosion resistance of rock. G.Rehbinder, Atlas Copco MCT AB, Sweden.	E1-1
E2	Waterjet cutting of deep-kerfs. J.M.Reichman and J.B.Cheung, Flow Industries Inc., U.S.A.	E2-11
E3	Material behaviour, material stressing, principle aspects in the application of high speed water jets. F.Erdmann-Jesnitzer, H.Louis and J.Wiedemeier, Technical University of Hanover, Federal Republic of Germany.	E3-29
E4	Jet induced target material temperature increases during jet cutting. K.F.Neusen and S.W.Schramm, University of Wisconsin - Milwaukee, U.S.A.	E4-45
F1	The application of a generalised jet cutting equation. M.Hashish and M.P.duPlessis, Concordia University, Canada.	F1-1
F2	On the equivalence between stationary and nonstationary modes of operation of water jets. T.R.Sundaram and HL.Liu, Hydronautics Inc., U.S.A.	F2-17
F3*	Analysis of the mechanism of interaction high-pressure water jet on cutting material. M.Mazurkiewicz, G.Galecki and Z.Sebastian, Wroclaw Technical University, Poland.	,
G1	Highway maintenance application of jet cutting technology. T.J.Labus, SCIRE Corporation, U.S.A., and J.A.Hilaris, IIT Research Institute, U.S.A.	G1-1
G2	Cutting and drilling of composites using high pressure water jets. T.J.Labus, SCIRE Corporation, U.S.A.	G2-9
H1	Surface cleaning using water-jet cavitation and droplet erosion. G.W.Vickers and R.Houlston, University of British Columbia, Canada.	H1-1
H2	Conservation and extraction of energy with the Cavijet $^{\mathrm{TM}}$. A.F.Conn and S.L.Rudy, Hydronautics Inc., U.S.A.	H2-19
H3	Water jetting under the North Sea. D.J.H.Odds, F.A.Hughes and Co. Ltd., U.K.	H3-39
H4	Jet cutting for contouring applications on flexible materials. R.W.T.Skelham and P.Shaw, Shoe and Allied Trades Research Association,	H4-47

Paper		Page
H5	750 kW water jet pump for pile driving. K.Hoshino, M.Hagihara, S.Shikata and Y.Yamatani, Hoshino Research Inc., Japan.	H5-61
H6	Performance of a high-pressure pulsed water-jet device for fracturing concrete pavement. G.G.Yie, Institute of Gas Technology, U.S.A., D.J.Burns and U.H.Mohaupt, University of Waterloo, Canada.	H6-65
H7	An approach to remote controlled jet cleaning of chemical reaction vessels to gain the maximum benefit from the technique. I.D.Bardrick, Powerstream Engineering Ltd., U.K.	H7-85
J1	Jet assisted tunellboring in coal-measure strata. J.Henneke and L.Baumann, Bergbau-Forschung GmbH, Federal Republic of Germany.	J1-1
J2	Surface trials of the Hydrominer. D.A.Summers and C.R.Barker, University of Missouri-Rolla, U.S.A.	J2-13
J 3	Some experience in developing mining roadways using the experimental heading machine with pulsed water jets. A.I.Petrakov and O.D.Krivorotko, Ministry of Coal Industry, U.S.S.R.	J3-25
J4	Investigation of the interaction between high-speed water jet and cutter during breakage of a rock mass. I.A.Kuzmich and M.A.Ruthberg, Ministry of Coal Industry, U.S.S.R.	J4-39

* These papers will be published in Volume 2.