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List of Publications:

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| Ratcheting failure of pressurised straight pipes and elbows under reversed bending,S Vishnuvardhan, G Raghava, P Gandhi, M Saravanan, S Goyal, P Arora, ...International Journal of Pressure Vessels and Piping 105, 79-89 | 35 | 2013 |
| Fatigue ratcheting studies on TP304 LN stainless steel straight pipes,S Vishnuvardhan, G Raghava, P Gandhi, M Saravanan, DM Pukazhendhi, ...,Procedia Engineering 2 (1), 2209-2218 | 27 | 2010 |
| Use of acoustic emission and ultrasonic techniques for monitoring crack initiation/growth during ratcheting studies on 304LN stainless steel straight pipe,CK Mukhopadhyay, T Jayakumar, TK Haneef, SS Kumar, BPC Rao, ...,International Journal of Pressure Vessels and Piping 116, 27-36 | 23 | 2014 |
| Ratcheting strain assessment in pressurised stainless steel elbows subjected to in-plane bending,S Vishnuvardhan, G Raghava, P Gandhi, S Goyal, SK Gupta, V Bhasin,Procedia Engineering 55, 666-670 | 11 | 2013 |
| Fracture investigations on piping system having large through-wall circumferential crack,IA Khan, P Ahuja, S Satpute, MA Khan, V Bhasin, KK Vaze, AK Ghosh, ...,International journal of pressure vessels and piping 88 (5-7), 223-230 | 7 | 2011 |
| Behaviour of cold-formed steel single and compound plain angles in compression,S Vishnuvardhan, GMS Knight,Advanced Steel Construction 4 (1), 46-58 | 7 | 2008 |
| Ratcheting studies on type 304LN stainless steel elbows subjected to combined internal pressure and in-plane bending moment S Vishnuvardhan, G Raghava, P Gandhi, M Saravanan, DM Pukazhendhi, ...,Journal of pressure vessel technology 134 (4) | 6 | 2012 |
| Fatigue Ratcheting Investigation on Pressurised Elbows made of SS304 LN,S Goyal, SK Gupta, V Bhasin, KK Vaze, AK Ghosh, S Vishnuvardhan, ...,Fifth ICTACEM, 578-580 | 6 | 2010 |
| Cyclic plastic deformation behaviour of SA 312 type 304LN stainless steel,A Ethirajan, M Saravanan, S Vishnuvardhan, J Jeyanthi,International Journal of Engineering and Applied Sciences 2 (5) | 5 | 2015 |
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Quasi-cyclic fracture studies on TP 304LN stainless steel straight pipes,S Vishnuvardhan, P Gandhi, M Saravanan, DM Pukazhendhi, G Raghava, ...,Proceedings of the 5th International Conference on Theoretical, Applied ...	5	2010
Evaluation of cyclic hardening parameters for type 304LN stainless steel,G Jenitha, M Saravanan, S Vishnuvardhan, GS Raghava, V Naresh Babu,Applied Mechanics and Materials 592, 1200-1204	4	2014
Evaluation of Combined Hardening Parameters for Type 304LN Stainless Steel Under Strain-Controlled Cyclic Loading,A Kumar, S Vishnuvardhan, G Raghava,Transactions of the Indian Institute of Metals 69 (2), 513-517	3	2016
Accelerated Corrosion Fatigue Studies on SA 333 Gr. 6 Carbon Steel,PS Aarthi, G Raghava, S Vishnuvardhan, M Surendar IJRSET journal 4	3	2015
Evaluation of cyclic hardening parameters for SA 312 type 304LN stainless steel,M Saravana, G Raghava, S Vishnuvardhan, GM Samuel Knight,Proceedings of 6th ICTACEM, IIT Kharagpur	3	2014
Low cycle fatigue and ratcheting studies on SA 312 Type 304LN stainless steel,S Vishnuvardhan, G Raghava, M Saravanan Proceedings of the 1st World Conference on Fracture and Damage Mechanics ...	3	2014
Studies on the effect of compliance on fracture behaviour of carbon steel pipes with circumferential through-wall crack,M Saravanan, P Gandhi, G Raghava, S Vishnuvardhan, DM Pukazhendhi, ... International journal of pressure vessels and piping 89, 67-74	3	2012
Quasi-cyclic fracture studies on narrow gap welded stainless steel straight pipes,S Vishnuvardhan, P Gandhi, G Raghava, M Saravanan, DM Pukazhendhi, ...,IASMiRT	3	2011
Effect of constraints on stress intensity factor for dissimilar metal plate with centre crack under uniform tension S Vishnuvardhan,Materials Today Communications 22, 100807	2	2020
Corrosion fatigue crack growth studies on pressure vessel and piping steels in water environment NM Mathew, S Vishnuvardhan, G Raghava, AS Santhi Archives of Metallurgy and Materials 62	2	2017
Fatigue Life Evaluation of Fillet Welded Cruciform Joints with Load-Carrying Welds,S Vishnuvardhan, G Raghava, M Saravanan, P Gandhi,Transactions of the Indian Institute of Metals 69 (2), 585-589	2	2016
Is GFRP Rebar a Potential Replacement for Steel Reinforcement in Concrete Structures?,P Gandhi, DM Pukazhendhi, S Vishnuvardhan, M Saravanan, G Raghava,Advances in Structural Engineering, 2043-2056	2	2015
	2	2011

Fracture studies on carbon steel piping components at elevated temperature,M Saravanan, P Gandhi, S Vishnuvardhan, DM Pukazhendhi, G Raghava, ...,IASMiRT		
Behaviour of cold formed steel single and compound angles in compression,S Vishnuvardhan,Chennai	2	2006
Behaviour Of Cold-Formed Steel Open Sections,S Vishnuvardhan, GMS Knight,Journal of Civil Engineering Research and Practice 2 (2), 25-37	2	2005
Performance of concrete beams reinforced with GFRP bars under monotonic loading,AR Murthy, DM Pukazhendhi, S,Vishnuvardhan, M Saravanan, P GandhiStructures 27, 1274-1288	1	2020
Fracture studies on carbon steel straight pipes having off-centred circumferential through-wall crack under finite compliance M Saravanan, S Vishnuvardhan, P Gandhi, G Raghava, IA Khan, ... International Journal of Pressure Vessels and Piping 182, 104077	1	2020
Fracture studies on reactor pressure vessel subjected to pressurised thermal shock: A review,K Thamaraiselvi, S Vishnuvardhan Nuclear Engineering and Design 360, 110471	1	2020
Fatigue Crack Growth Studies on Power Plant Piping Materials under Corrosive Environment,S Vishnuvardhan, M Saravanan, P Gandhi, G Raghava,Procedia Structural Integrity 14, 482-490	1	2019
Tensile and fracture characterization using a simplified digital image correlation test set-up,A Kumar, S Vishnuvardhan, AR Murthy, G Raghava,Structural Engineering and Mechanics 69 (4), 467-477	1	2019
Quasi-cyclic fracture studies on stainless steel welded straight pipes with circumferential through-wall crack in the weld,S Vishnuvardhan, P Gandhi, G Raghava, DM Pukazhendhi, M Saravanan, ...,International Journal of Pressure Vessels and Piping 149, 33-42	1	2017
Fracture studies on carbon steel elbows having part-through notch with and without internal pressure,M Saravanan, S Vishnuvardhan, P Gandhi, DM Pukazhendhi, G Raghava, ...International Journal of Pressure Vessels and Piping 138, 19-30	1	2016
Accelerated Corrosion Fatigue Crack Growth Studies on IS 2062 Gr. E 300 Steel,S Kelita, G Raghava, S Vishnuvardhan, C Ramesh Babu,International Journal of Science and Engineering Applications 4 (3)	1	2015
Fatigue crack growth studies on rail steel,S Shamili, P Gandhi, S Vishnuvardhan, P Gajalakshmi,Int. J. Innov. Res. Sci. Eng. Tech. 6 (4), 1777-1785	1	2015
Experimental fracture studies on carbon steel elbows with and without internal pressure,P Gandhi, M Saravanan, S Vishnuvardhan, DM Pukazhendhi, G Raghava, ... International Journal of Pressure Vessels and Piping 111, 262-268	1	2013

Monotonic and cyclic J-integral estimation for through-wall cracked straight pipes,SV Rohit, P Gandhi, NR Iyer international journal of civil, environmental, structural, construction and ...	1	2012
Ratcheting failure of straight pipes and elbows with internal pressure subjected to cyclic loading,S Vishnuvardhan, G Raghava, P Gandhi, M Saravanan, DM Pukazhendhi, ... IASMiRT	1	2011
Fracture behaviour of cruciform specimens under uni-axial bending at room temperature and subzero temperature,M Saravanan, DM Pukazhendhi, P Gandhi, S Vishnuvardhan, G Raghava	1	2008
How many accelerograms to use and how to deal with scattering for transient non-linear seismic computations?,E Viallet, G Heinfling,IASMiRT	1	2005
Crack growth analysis and remaining life prediction of dissimilar metal pipe weld joint with circumferential crack under cyclic loading,AR Murthy, P Gandhi, S Vishnuvardhan, G Sudharshan Nuclear Engineering and Technology 52 (12), 2949-2957		2020
Load vs. load-line displacement curves for pipe fracture tests conducted under finite compliance Fracture Studies on Carbon Steel Straight Pipes having Off-centred ...M Saravanan, S Vishnuvardhan, P Gandhi, G Raghava, IA Khan, ... International Journal of Pressure Vessels and Piping, 104077		2020
Assessment of Speckle Pattern for Use in Digital Image Correlation Analysis Using Simulated Displacement Field,A Kumar, S Vishnuvardhan, P Gandhi,Structural Integrity Assessment, 603-615		2020
Numerical Studies on Ratcheting Behaviour of Straight Pipes M Saravanan, S Vishnuvardhan, P Gandhi, G Raghava Structural Integrity Assessment, 295-308		2020
Evaluation of fracture resistance of AISI type 316LN stainless steel base and welded pipes with circumferential through-wall crack SA Krishnan, R Nikhil, G Sasikala, A Moitra, SK Albert, AK Bhaduri, ...International Journal of Pressure Vessels and Piping 178, 104008		2019
Fracture studies on narrow gap welded SA 312 Type 304LN stainless steel straight pipes under quasi-cyclic loading S Vishnuvardhan, P Gandhi, M Saravanan, G Raghava, SK Gupta, . International Journal of Pressure Vessels and Piping 174, 32-41		2019
Use of Acoustic Emission for Studying Ratcheting Behavior of 304LN Stainless Steel Elbows.CK Mukhopadhyay, TK Haneef, SK Gupta, V Bhasin, S Vishnuvardhan, ...Journal of Acoustic Emission 36		2019
Relevance vector based approach for the prediction of stress intensity factor for the pipe with circumferential crack under cyclic loading,A Ramachandra Murthy, S Vishnuvardhan, M Saravanan, P Gandhic,Structural Engineering and Mechanics 72 (1), 31-41		2019

Monotonic Fracture Studies on Bi-metallic Pipe Weld Joints Having Circumferential Through-Wall Crack G Raghava, S Vishnuvardhan, M Saravanan, P Gandhi, S Kumar, ...Advances in Structural Integrity, 419-434	2018
Fracture evaluation of crack in dissimilar metal pipe welds of primary heat transport system: tests and analysis S Kumar, PK Singh, IA Khan, S Satpute, KN Karn, V Bhasin, M Saravanan, ...Bhabha Atomic Research Centre	2017
Fatigue ratcheting studies on pressurised stainless steel straight pipes under cyclic bending,M Saravanan, G Raghava, S Vishnuvardhan, GM Samuel Knight,Proceedings of the seventh international conference on creep, fatigue and ...	2016
Studies on Fatigue Life of Typical Welded and Bolted Steel Structural Connections,G Raghava, S Vishnuvardhan, M Saravanan, P Gandhi,Advances in Structural Engineering, 2397-2408	2015
Fatigue Life Estimation of Type 304LN Stainless Steel under Strain-controlled Cyclic Loading,A Lincy Rubina, S., Vishnuvardhan, S., Raghava, G., Sivakumar,International Journal of Civil Engineering and Technology 5 (3), 252-260	2014
Fracture studies on stainless steel straight pipes under earthquake-type cyclic loading,G Raghava, S Vishnuvardhan, P Gandhi, KK Vaze,Proceedings of the international conference on disaster management	2014
Application of ACPD Technique for Monitoring Fatigue Crack Growth in Structural Components,G Raghava, P Gandhi, DM Pukazhendhi, S Vishnuvardhan, M Saravanan,Studies in Applied Electromagnetics and Mechanics 36, 293	2012
Fatigue crack growth studies on SA 516 Gr. 70 steel,G Raghava, P Gandhi, S Vishnuvardhan, KK Vaze, DM Pukazhendhi, IASMiRT	2011
Fatigue Crack Growth Studies on Carbon Steel and Stainless Steel Pipes,DM Pukazhendhi, P Gandhi, G Raghava, M Saravanan, S Vishnuvardhan, ...	2009
Evaluation of Fatigue Crack Growth Constants for SA 516 Gr. 70 Steel Based on Plate Specimen Studies,MS Keerthy, S Vishnuvardhan, G Raghava, R Angeline Prabhavathy	2009
Fatigue Crack Growth Studies on SA 312 Type 304 LN Stainless Steel Pipes in Air and Water Environments and Vibration Loading DM Pukazhendhi, M Saravanan, S Vishnuvardhan, P Gandhi, G Raghava, ...	2009
Fatigue and Fracutre Behaviour of Piping Components of Power Plants,G Raghava, P Gandhi, DM Pukazhendhi, M Saravanan, S Vishnuvardhan	2009
Evaluation of Fatigue Crack Growth Constants for SA 333 Gr. 6 Steel Used in Nuclear Power Plant Structures,G Lavanya, P	2009

Gandhi, G Srinivasan, S Vishnuvardhan

Internal Pressure and High Temperature Fracture Studies on Carbon Steel straight Pipes,G Raghava, P Gandhi, DM Pukazhendhi, M Saravanan, S Vishnuvardhan 2008

Fatigue Life Evaluation of Constructional Details of IS 2062 Steel S Vishnuvardhan, G Raghava, P Gandhi, DM Pukazhendhi, M Saravanan 2008

Fatigue behaviour of cold-formed steel lipped angles,S Vishnuvardhan, S Kandasamy, GMS Knight,TRANSACTIONS OF THE INDIAN INSTITUTE OF METALS 58 (2-3), 445-451 2005

Evaluation of Cyclic Hardening Variables for Type 304LN Stainless Steel,G Jenitha, R Regupathi, M Saravanan, S Vishnuvardhan,International Journal of Applied Engineering Research 10 (53), 2015

Experimental determination of statistical parameters associated with uniaxial compression behaviour of brick masonry Balasubramanian, SR; Maheswari, D.; Cynthia, A.; Balaji Rao ... M Verma, J Rajasankar, N Anandavalli, A Prakash, NR Iyer, ... Sage 18 (9), 1399-1414

Simulation of Ratcheting Behaviour in SA 312 Types 304LN Stainless Steel Straight Pipes,GG Obuli, M Saravanan, S Vishnuvardhan, P Gowthamramkarthik Carbon 14, 12

Fatigue Life Evaluation of Fillet Welds Subjected to Shear C Neeladharan, S Vishnuvardhan, M Saravanan, R Regupathi