



Professor Airong Liu

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Biography:

Dr Airong Liu is currently working as Professor and Director of Guangzhou University-Tamkang University Joint Research, Centre for Engineering Structure Disaster Prevention and Control at Guangzhou University, People’s Republic of China. She was externally appointed as Vice director of China International Science and Technology Cooperation Base, Vice director of Guangdong Engineering Technology R&D Center, Council member of The Chinese Society of Theoretical and Applied Mechanics on Civil Engineering. Also she works as Reviewer of ‘Journal of structure engineering’, ‘Journal of bridge engineering’, ‘International of structural stability and vibration’, ‘Journal of Constructional Steel’, ‘Engineering Mechanics’, ‘Chinese Journal of Computational Mechanics’.

Research Interests:

- Bridge engineering • Engineering mechanics • Structural stability • Earthquake resistance of structures • Structural health monitoring

Selected Publications:

Y. Q. Huang, H. W. Lu, J. Y. Fu, A. R. Liu and M. Gu , Dynamic stability of Euler beams under axial unsteady wind force, *Math. Probl. Eng.* 434868 (2014) 1–12.
 Ai-Rong Liu, Yong-Hui Huang, Ji-Yang Fu, Qi-Cai Yu and Rui Rao, “Experimental research on stable ultimate bearing capacity of leaning-type arch rib systems”, *Journal of Constructional Steel Research*, Vol. 114, pp 281-292, November 2015

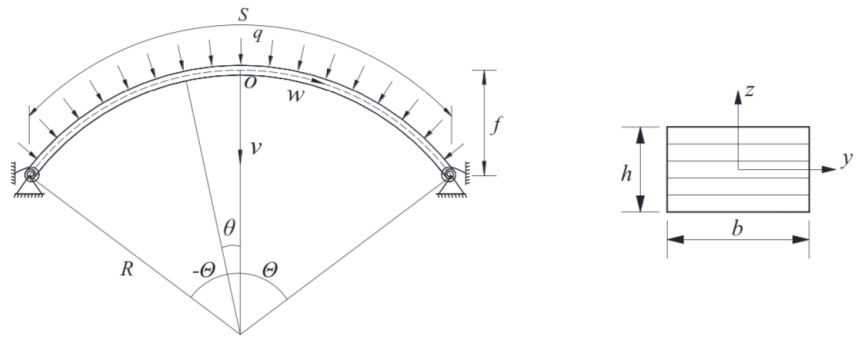


Figure 1. Configuration and coordinate system of the functionally graded graphene platelet-reinforced composite (FG-GPLRC) shallow arch with elastic rotational constraints.

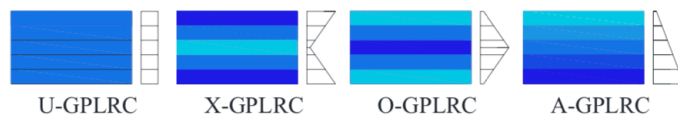


Figure 2. Different graphene nanoplatelets (GPL) distribution patterns in a multilayer FG-GPLRC shallow arch.

From: Yonghui Huang, Zhicheng Yang, Airong Liu and Jiyang Fu, “Nonlinear Buckling Analysis of Functionally Graded Graphene Reinforced Composite Shallow Arches with Elastic Rotational Constraints under Uniform Radial Load”, *Materials*, Vol. 11, pp910-, 2018

Y. Q. Huang, A. R. Liu, Y. Pi, H. W. Lu and W. Gao , Assessment of lateral dynamic instability of columns under an arbitrary periodic axial load owing to parametric resonance, *J. Sound Vib.* 395 (2017) 272–293.

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Airong Liu, Hanwen Lu, Jiyang Fu and Yong-Lin Pi, “Lateral-torsional buckling of circular steel arches under arbitrary radial concentrated load”, *ASCE Journal of Structural Engineering*, Vol. 143, No. 9, September 2017

Airong Liu, Zhicheng Yang, Mark Andrew Bradford and Yong-Lin Pi, “Nonlinear dynamic buckling of fixed shallow arches under an arbitrary step radial point load”, *ASCE Journal of Engineering Mechanics*, Vol. 144, No. 4, April 2018

Mark Andrew Bradford, Yong-Lin Pi and Airong Liu, “Out-plane elastic-plastic buckling strength of high-strength steel arches”, *ASCE Journal of Structural Engineering*, Vol. 144, No. 6, June 2018

Yonghui Huang, Zhicheng Yang, Airong Liu and Jiyang Fu, “Nonlinear Buckling Analysis of Functionally Graded Graphene Reinforced Composite Shallow Arches with Elastic Rotational Constraints under Uniform Radial Load”, *Materials*, Vol. 11, pp910-, 2018

A. R. Liu, Z. C. Yang, H. W. Lu, J. Y. Fu and Y. L. Pi , Experimental and analytical investigation on the in-plane dynamic instability of arches owing to parametric resonance, *J. Vib. Control*. 24 (19) (2018) 4419–4432

Hanwen Lu, Airong Liu, Yong-Lin Pi, Mark Andrew Bradford and Jiyang Fu, “Lateral-torsional buckling of arches under an arbitrary radial point load in a thermal environment incorporating shear deformations”, *Engineering Structures*, Vol. 179, pp 189-203, 15 January 2019

Youqin Huang, Jiyang Fu, Di Wu, Airong Liu, Wei Gao and Yonglin Pi, “Dynamic stability of slender concrete-filled steel tubular columns with general supports”, *International Journal of Structural Stability and Dynamics*, Vol. 19, No. 4, 1950045, April 2019

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Zhicheng Yang, Yonghui Huang, Airong Liu, Jiyang Fu and Di Wu, “Nonlinear in-plane buckling of fixed shallow functionally graded graphene reinforced composite arches subjected to mechanical and thermal loading”, *Applied Mathematical Modelling*, Vol. 70, pp 315-327, June 2019

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Xiaochun Song, Hanwen Lu , Airong Liu , and Yonghui Huang, “In-Plane Instability of Fixed Arches under Linear Temperature Gradient Field and Uniformly Distributed Radial Load”, *Mathematical Problems in Engineering*, Vol 2019, Article ID 5938030

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Zhicheng Yang, Shaoyu Zhao, Jie Yang, Jianguo Lv, Airong Liu & Jiyang Fu (2020): In-plane and out-of-plane free vibrations of functionally graded composite arches with graphene reinforcements, *Mechanics of Advanced Materials and Structures*, 2020, DOI: 10.1080/15376494.2020.1716420