

Figure 3



**Professor J. Toby Mottram**

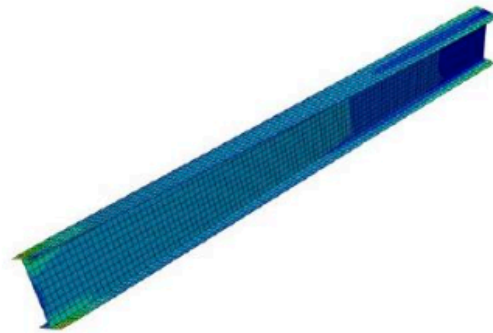


Figure 4

From: T. T. Nguyen, T. M. Chan and J. T. MOTTRAM, 'Influence of boundary conditions and geometric imperfections on establishing lateral-torsional buckling resistance of a pultruded FRP I-beam by finite element analysis,' *Composite Structures*, 100, (2013), 233-242

See:

<http://www2.warwick.ac.uk/fac/sci/eng/staff/jtm/>

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**Education:**

BSc (Engineering Science) University of Durham, 1979

PhD University of Durham, 1984

DSc University of Warwick, 2007

### **Research Interests:**

Structural characterisation of lightweight systems for achieving sustainable construction.

Structural engineering towards developing member shapes and methods of connection for traditional and innovative construction.

Physical testing, design and analysis of members, connections and joints, and sub-assemblies for load bearing systems of pultruded FRP shapes and systems.

Structural integrity and durability of materials and structures.

Test methods for characterisation of FRP materials and their structures.

Preparation of prescriptive and performance based design rules and procedures for industry-wide standards and codes of practice.

Application of finite element analysis and other computational methods to understand static, buckling, dynamic and progressive fracture in FRP structures.

Development of novel structural systems combining concrete with FRP material.

### **Selected Publications:**

J. T. MOTTRAM, 'Lateral-torsional buckling of thin-walled composite I-beams by the finite difference method', *Composites Engineering*, 2 2, (1992), 91-104. ISSN 0961- 9526

J. T. MOTTRAM, 'Lateral-torsional buckling of a pultruded I-beam', *Composites*, 23 2, (1992), 81-92. ISSN 0010-4361

J. T. MOTTRAM, 'Compression strength of pultruded flat sheet material', *Journal of Materials in Civil Engineering*, 6 2, (1994), 185-200. ISSN 0899-1561

J. T. MOTTRAM, and M. Aberle, 'When should shear-flexible stability functions be used in elastic structural analysis?' *Structures and Buildings*, 152 1, (2002), 31-41. ISSN 0965-0911

A. Lane and J. T. MOTTRAM, 'The influence of modal coupling upon the buckling of concentrically pultruded fibre-reinforced plastic columns,' *Proceedings of the Institution of Mechanical Engineers Part L: Journal of Materials - Design and Applications*, 216 (L2), (2002), 133-144. ISSN 1464-4207

J. T. MOTTRAM, N. D. Brown, and D. Anderson, 'Physical testing for concentrically loaded columns of pultruded glass fibre reinforced plastic profile', *Structures and Buildings*, 156 2, (2003), 205-219. ISSN 0965-0911

J. T. MOTTRAM, N. D. Brown, and D. Anderson, 'Buckling characteristics of pultruded glass fibre reinforced plastic columns under moment gradient', *Thin-Walled Structures*, 41 7, (2003), 619-638. ISSN 0263-8231

W. Hall, J. T. MOTTRAM and R. P. Jones, 'Finite element simulation for macroscopic tyre behaviour,' *Proceedings of the Institution of Mechanical Engineers Part D: Journal of Automobile Engineering*, 218 12, (2004), 1393-1408. ISSN 0954-4070

W. Hall, J. T. MOTTRAM and R. P. Jones, 'Tire modeling with the explicit finite element code LS-DYNA', *Tire Science and Technology*, 32 4, (2004), 236-261. ISSN 0090-8657

Mottram, J.T., 2004. Determination of critical load for flange buckling in concentrically loaded pultruded columns. *Composites Part B: Engineering* 35(1): 35-47

T. T. Nguyen, T. M. Chan and J. T. MOTTRAM, 'Influence of boundary conditions and geometric imperfections on establishing lateral-torsional buckling resistance of a pultruded FRP I-beam by finite element analysis,' *Composite Structures*, 100, (2013), 233-242. ISSN: 0263-8223  
doi.org/10.1016/j.compstruct.2012.12.023

T.T. Nguyen, T. M. Chan and J. T. MOTTRAM, 'Lateral-torsional buckling resistance by testing of pultruded FRP beams under different loading and displacement boundary conditions,' *Composites Part B: Engineering*, 60 1, (2014), 306-318. ISSN 1359-8368

G. Boscato, C. Casalegno, S. Russo and J. T. MOTTRAM, 'Buckling of built-up columns of pultruded FRP C-sections,' *Journal of Composites for Construction*, 18 4, (2014), p. 11. ISSN 1090-0268

T. T. Nguyen, T. M. Chan and J. T. MOTTRAM, 'Lateral-torsional buckling design for pultruded FRP beams,' *Composite Structures*, 133 1, 2015, 782–793. ISSN: 0263-8223