

Preface

Fracture is highly detrimental to products. The dangers of brittle fracture in bridges, ships and storage tanks have been well-known for centuries. The sinking of the Titanic, famously dramatised in the recent film, is a good example of the consequences of brittle fracture.

Although this type of typical brittle fracture has decreased, many types of fracture or failure are still experienced even now.

To develop high-strength materials that are resistant to fracture, we must know about fracture mechanisms. Recent advanced materials like ceramics, composites, and intermetallics show inherent brittleness. To promote their practical utilisation, we must enhance the fracture toughness of these materials, although it may be difficult. The situation is the same even for traditional materials.

High strength and toughness are always desirable properties of material. They help to assure the safety and operational reliability of products. This special issue contains fifteen research or review papers from various fields associated with fracture research.

I would like to thank all the authors for their contributions.

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