

Deformation, failure, fracture and strength reliability of structural materials

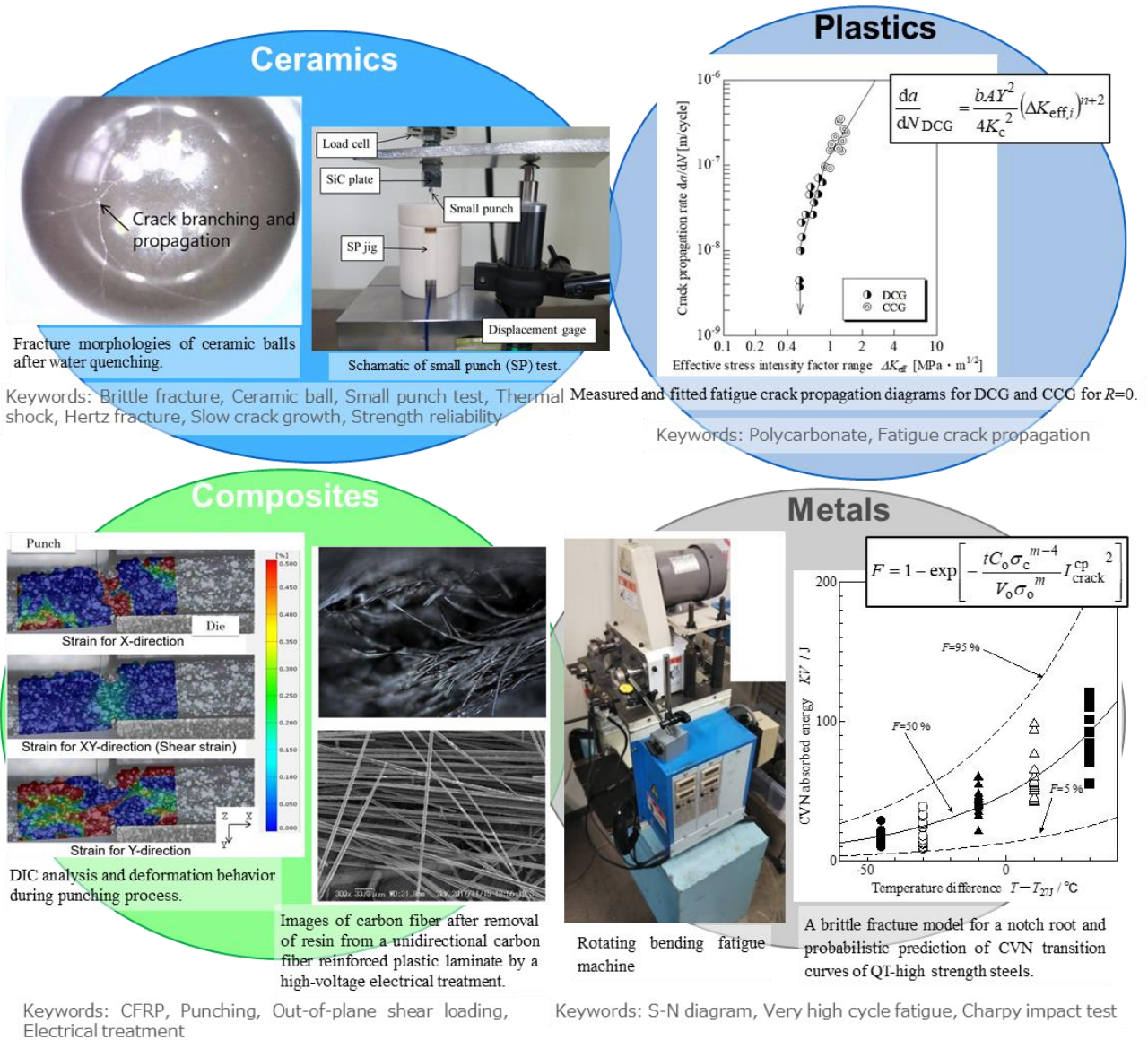
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Outline

"How do it break? (fracture mechanism)" and "How long can it be used ? (strength and life)" are need to know because mechanical structures require high safety and reliability. It is very important to use the materials after wide mechanical tests because using materials without fully understanding the mechanical properties is carried risk. In this research, the fracture mechanism and the strength reliability of structural materials (i.e., ceramics, plastics, metals, and composite materials (CFRP)) are investigated via mechanical tests and theoretical analysis. We propose "how to use" structural materials.

Research



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Keywords : Structural materials, Fracture mechanism, Fatigue, Thermal shock, Contact fracture, Accidents and troubles

