**Determination of elastic moduli of carbon fibre as anode material in lithium–ion battery**

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Abstract:

Carbon fibre as a strong and multifunctional material is promising for lightweight structure. However, its small size and anisotropic properties make any mechanical test very challenging. Combining with two directional indentation tests, we determined both transverse modulus and shear modulus. When the carbon fibre is used as anode material in lithium ion battery. Its elastic moduli change by lithium intercalation. Therefore, we further measured the elastic moduli of lithiated carbon fibre using similar method.