Record Nr. UNINA9910807802203321 Defects and diffusion in carbon nanotubes Titolo Pubbl/distr/stampa [Zurich, Switzerland]:,:[Trans Tech Publications],,[2014] ©[2014] **ISBN** 3-03826-602-7 Descrizione fisica 1 online resource (176 p.) Collana Defect and Diffusion Forum; ; Volume 356 Disciplina 620.11299 Soggetti **Nanotubes** Carbon Nanostructured materials Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Defects and Diffusion in Carbon Nanotubes; Table of Contents; Nota di contenuto **Abstracts** Sommario/riassunto Carbon nanotubes are one of the newest materials to be discovered, being barely 20 years old. They are also the most promising one, with one particular sample of multi-walled nanotube attaining a tensile strength of 63GPa, and with carbon nanotubes in general having a specific strength of up to 48000kNm/kg: effectively a direct exploitation of the covalent sp 2 bonding between carbon atoms. Plastic deformation begins at about 5% strain. The nanotubes can be produced in lengths of up to 550mm, and thicknesses as small as 4.3A; making them perfect reinforcement fibres for composites. They also h