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Sommario/riassunto

The rapid technological developments during the later half of the 20th century have demanded materials that are stronger, capable of use at much higher temperatures, more corrosion-resistant, and much less expensive than those currently used. These demands become even more significant on the threshold of the new century and the millennium. Significant improvements in properties can only be achieved by processing the materials under far-from-equilibrium (or non-equilibrium) conditions. Several new processing technologies have been developed during the past few decades including, rapid solidifi