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(54) **METAL MATRIX COMPOSITE, AND PREPARATION METHOD THEREOF**

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(58) **Field of Classification Search**
None
See application file for complete search history.

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(57) **ABSTRACT**

The present invention provides a preparation method of a metal matrix composite. The method comprises the following steps of: 1) pulverizing a solid carbon material to a micrometer size; 2) plastic deforming a metal matrix powder and dispersing the pulverized nanometer-sized carbon material into the metal matrix powder during the plastic deformation; 3) integrating the metal/carbon nano-material composite powder obtained in step 2) by using a hot forming process; and 4) heat treating the integrated bulk material at a predetermined temperature to form a composite having a metal-carbon nanophase, a metal-carbon nanoband formed by growth of the metal-carbon nanophase, or a metal-carbon nano-network structure formed by self-coupling of the metal-carbon nanoband.

**14 Claims, 10 Drawing Sheets**