Title (en)
    INTERACTIVE MACHINE CONTROL SYSTEM AND METHOD

Title (de)
    VERFAHREN UND SYSTEM ZUR INTERAKTIVEN STEUERUNG EINER MASCHINE

Title (fr)
    PROCEDE ET SYSTEME DE COMMANDE INTERACTIVE D'UNE MACHINE

Publication
    EP 0727058 A4 19971015 (EN)

Application
    EP 95932376 A 19950901

Priority
    • US 9511142 W 19950901
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Abstract (en)
    [origin: WO9608752A2] A method and system for interactive operation of computer-controllable machines, e.g., machine tools. The method involves processing real-time operator input commands, machine operating state data, and machine operating objective data to select a series of predefined operating modes. This allows the operator substantial control over how the operating objectives are acheived. The system runs on a suitably programmed microprocessor and includes a manual input device for real-time operating commands, means for storing data representing operating objectives for the machine, means to provide feedback as to the actual state of machine operation, and means to generate control commands based on sets of available operating modes. To assure rapid system response, the operating objective data is partitioned according to a logical scheme, and a subset of the data is used in determining the operating constraints, on the basis of affinity with the operating state feedback data. In a machine tool application, a geometric model of the part to be machined is created which defines the part in terms of a plurality of part boundaries. The partitioning involves a set of cells, each containing a predetermined maximum number of part boundaries. The position of the cutting tool is determined by identifying the cell corresponding to the tool location at a given time, and the part boundaries associated with the identified cell are used in computing collision avoidance commands to assure proper cutting of the part. A graphical display of machine operation compared to the operating objectives may also be provided, along with means to record and process a sequence of machine operating commands for subsequent playback to control repetitive machine operation.

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IPC 8 full level
    B23Q 15/00 (2006.01); **G05B 19/409** (2006.01); **G05B 19/4097** (2006.01)

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    • No further relevant documents disclosed
    • See references of WO 9608752A2

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