

TEHNICI FOLOSITE ÎN PROIECTAREA SISTEMELOR FLEXIBILE DE FABRICAȚIE

TECHNIQUES USED IN THE DESIGN OF FLEXIBLE MANUFACTURING SYSTEMS

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Abstract: To design flexible manufacturing systems (FMS) they use techniques based on the use of classical sets (Boolean sets) which help determine the variants of product categories and of groups of machines for the designed system and the operations on these sets. Techniques based on the concept of vague sets are also used in the design of FMS especially in taking optimal decisions through a multi-criteria approach, namely multi-objective or multi-attribute decisions. Since the design of FMS comes to optimize the allocation of resources and their use, the techniques used in the computer operating systems to solve this optimization problem can be transposed in FMS. A key role in the design of FMS is played by the techniques of modeling and simulation, the steps associated with simulations acting as responses of validation or completion of the results of each previous stage. However, the prior development of models - the management of FMS or of the subsystems thereof - may contribute to the adoption of several solutions within the design operations management, solutions ensuring the anticipated flexibility.

Keywords: Flexible manufacturing systems, vague sets, flexibility.