FUZZY LINEAR PROGRAMMING MODEL FOR THE PRODUCTIONS SCHEDULE OF CHEMICAL PLANTS

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The productivity of chemical plants depends greatly on their production schedules. But the production schedule is mainly dependent on production time. So the scheduling of production time is particularly important in chemical plants. Chemical plants can be divided into categories from the viewpoints of their production schedule, they are 1, Multiproduct chemical plants and 2, Multipurpose chemical plants. In this paper we model only production in multi purpose chemical plants.

In multipurpose chemical plants each operation for multiple products are carried out with their own distinct equipments model sequences through the chemical plants. But the production time period of production schedules of multipurpose chemical plants is more complicated, because the time period of production may vary, hence the time period of production scheduling is an uncertainty. As the model is a complicated one and uncertainty of both time and productivity prevails we are justified in adopting fuzzy set theory in general and fuzzy linear programming in particular in scheduling of the chemical plants.
We consider three scheduling models for globally optimal schedule. The models are:

1. Schedule by production ordering,
2. Globally optimal schedule,
3. Locally optimal schedule.

The acceptable production flexibility and acceptable production time are determined by fuzzy set theory based on equipment models. By this approach we are such to maximize the flexibility of production and minimize the production time.