Multiobjective Optimization of Coated Steel Plate

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It is very important to maintain three mechanical properties highly and uniformly in a Continuous Galvanizing Line(CGL). These mechanical properties, Yield Point(YP), Tensile Strength(TS), and Elongation(EL), are core output responses in a CGL. In order to high and uniform qualities level, we show optimal operation conditions setting using following multiobjective optimization procedure. First of all, we selected process variables which are contribute to significant changes of three output responses based on interviews with engineers and operators and statistical approach. Secondly, we built three 2nd order regression model using stepwise MLR. Finally, we found optimal operation conditions using Maximin Desirability Function approach by Kim and Lin. We expect that these three mechanical properties will be improved excellently by application to real CGL processes.