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Optimization of a Production Line in Brown Coal Industry

Modelling a production line of briquette bundles (from briquette presses to the palettizers) was a demanding first step in this project. In view of the complex production reality modelling could only be achieved by computer simulation. This object-oriented simulation device was then used to optimize some of virtually hundreds od free parameters like weight limits, briquette and bundle transport velocities, sensor positions, delays etc. In this presentation we deal with the problem of briquette-layer weight limit control and investigate the objective function with respect to differentiability and other relevant features. We focus on results that are of mathematical interest beyond this particular application.