



Contribution ID: 72

Type: **not specified**

## Tailoring DOE Constraints to the Problem

*Tuesday, June 28, 2022 5:35 PM (20 minutes)*

There are often constraints among the factors in experiments that are important not to violate, but are difficult to describe in mathematical form. In this presentation, we illustrate a simple workflow of creating a simulated dataset of candidate factor values. From there, we identify a physically realisable set of potential factor combinations that is supplied to the new Candidate Set Design capability in JMP 16. This then identifies the optimal subset of these filtered factor settings to run in the experiment. We also illustrate the Candidate Set Designer's use on historical process data, achieving designs that maximize information content while respecting the internal correlation structure of the process variables. Our approach is simple and easy to teach. It makes setting up experiments with constraints much more accessible to practitioners with any amount of DOE experience.

### Keywords

DOE, constraints, education

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**Session Classification:** CONTRIBUTED Design of Experiment 6

**Track Classification:** Design and analysis of experiments