Crossing balanced and stair nested designs

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Abstract

Balanced nesting is the most usual form of nesting and originates, when used singly or with crossing of such sub-models, orthogonal models. In balanced nesting we are forced to divide repeatedly the plots and we have few degrees of freedom for the first levels. If we apply stair nesting we will have plots all of the same size rendering the designs easier to apply. The stair nested designs is a valid alternative for the balanced nested designs because we can work with fewer observations, the amount of information for the different factors is more evenly distributed and we obtain good results. The inference for models with balanced nesting is already well studied. For models with stair nesting it is easy to carry out inference because it is very similar to that for balanced nesting. In this work starting with algebraic structure of the balanced and stair nested designs. We consider their crossing.

Keywords

Balanced nested, Stair nested, Crossing, Variance components, Inference.

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