

## A TOOL FOR TEACHING, BUILDING AND COMPARING INCOMPLETE BLOCK DESIGNS

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- **ABSTRACT:** *Options for the choice of an experimental design have drastically increased; with an appropriate computer program, today any design can be analyzed. Nevertheless, the incomplete block design (IBD) continues to be avoided, resulting in a less efficient use of research resources. One of the plausible reasons is the fact that the IBD's treatment/block composition is not well understood. We introduce the concurrence table (CT), a simple tool which clarifies the IBD's structure, showing for all treatment pairs how often the two treatments of a pair occur together in a block. We show the use of the CT: to reveal the features of the balanced and the partially balanced incomplete block design; to check a design for connectedness; and to compare IBDs. The CT is helpful in building block designs with a less regular pattern.*
- **KEYWORDS:** *Design of experiments; understanding incomplete blocks; concurrence matrix; connectedness; weighted concurrence.*

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