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**Projection array based designs for computer experiments.** (English) Zbl 1242.62083  
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**Summary:** We define a new class of designs for computer experiments. A projection array based design defines sets of simulation runs with properties that extend the conceptual properties of orthogonal array based Latin hypercube sampling, particularly to underlying design structures other than orthogonal arrays. Additionally, we illustrate how these designs can be sequentially augmented to improve the overall projection properties of the initial design or focus on interesting regions of the design space that need further exploration to improve the overall fit of the underlying response surface. We also illustrate how an initial Latin hypercube sample can be expressed as a projection array based design and show how one can augment these designs to improve higher dimensional space filling properties.

**MSC:**

[62K99](#) Design of statistical experiments  
[68U20](#) Simulation (MSC2010)  
[68U99](#) Computing methodologies and applications

**Keywords:**

[orthogonal array](#); [Latin hypercube samples](#); [orthogonal array based Latin hypercube samples](#); [maximin distance](#)

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