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FROM PLANAR NEARRINGS TO BLOCK DESIGNS

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Simple BIBDs (balanced incomplete block designs) and PBIBDs (partially balanced incomplete block designs) are interesting subjects in combinatorics. Planar nearings, like most of the subjects in finite geometries, can be applied for the constructions of block designs. On the other hand, simple BIBDs and PBIBDs can be directly constructed from algebraic structures, such as nearfields, fields, and rings. In this article we show how these subjects are closely related.