

On regularly unbiased Hadamard matrices

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Two (complex) Hadamard matrices H and K of order n are called *unbiased* if the matrix HK^* has no zero entries, where K^* denotes the conjugate transpose of K . If all the entries of HK^* have modulus \sqrt{n} , then the pair is called to be *regularly unbiased*. The class of mutually regularly unbiased Hadamard matrices has applications in quantum cryptography. The talk covers all which is known about these matrices with some new twists. (Joint work with W. H. Holzmann and W. Orrick)