# The maximum number of mutually orthogoval Desarguesian affine planes of order $2^n$

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**Abstract**

Two affine planes of the same order and on the same pointset are *orthogoval* if each line of one plane intersects each line of the other plane in at most two points [1]. A set of pairwise orthogoval affine planes is *mutually orthogoval*.

I shall describe a new computational method to determine the maximum number of Desarguesian mutually orthogoval affine planes of order $2^n$. This gives exact results for orders 8 and 16, and indicative results for orders 32 and 64.

## References

[1] C. J. Colbourn, C. Ingalls, J. Jedwab, M. Saaltink, K. W. Smith, B. Stevens. Sets of mutually orthogoval projective and affine planes. *Combinatorial Theory*, **4**:#8, 2024.