

## Coassociative geometry in 7 dimensions

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Coassociative 4-folds are a distinguished class of submanifolds in 7-manifolds endowed with a structure associated with the exceptional Lie group  $G_2$ . They are related to complex surfaces and minimal Lagrangian submanifolds, as well as appearing in theoretical physics. I will give an elementary survey of coassociative geometry, including connections with non-linear partial differential equations, algebraic geometry and the spectrum of the curl operator on 3-manifolds.