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On the conjecture of Alesker-Verbitsky

We will discuss a geometric PDE, called quaternionic Monge-Ampere equation, introduced 15 years ago by Alesker and Veritsky. This is the equation which solvability is needed for the version of the Calabi conjecture for hypercomplex manifolds to be true. Some new phenomena, regarding higher order estimates, occurs for this equation in comparison to its more classical counterparts of real and complex Monge-Ampere equations. We will focus on outlining this differences.