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Antonella Marini* (anto_marini@libero.it) and **Thomas H. Otway**. *On the Hodge-Frobenius equations.*

A system of elliptic-hyperbolic equations for differential forms is discussed. This system reduces in various special cases to equations for compressible flow with rotation, the Born-Infeld equations, equations for rigid-body rotation, and equations for pseudo-plastic flow. Little is known about these equations except in the (degenerately) elliptic special case. A few results are independent of type and suggest conjectures for the elliptic-hyperbolic case. (Received May 24, 2011)