Equilibrium Schemes for Helmholz Equation

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For nonlinear scalar conservation laws with source terms equilibrium schemes were developed in [1],[2]. The schemes converge very fast for steady state solutions via time marching procedure. One of the reasons for this is that the scheme is using locally exact solutions where appropriate. This approach for constructing equilibrium schemes is extended for Helmholz equation.

References

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[2] R. Botchorishvili, 0. Pironneau, Finite volume schemes with equilibrium type discretization of source terms for scalar conservation laws in several space dimensions, J.Comput.Phys., 187, (2003) 391-427.