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Investigating Nontrivial Time-Periodic Solutions to the Whitham Equation[1] CHRISOTPHER ROSS, JOHN CARTER, Seattle University — We are interested in waves on shallow water and are studying the existence and evolution of nontrivial time-periodic solutions to the Whitham equation. These solutions can be described as a small-amplitude traveling-wave interacting with a carrier wave. Ambrose and Wilkening (2009) introduced a numerical method for computing such solutions to the Benjamin-Ono equation via minimization of a functional. They noted that their method can be applied to any partial differential equation that admits nontrivial time-periodic solutions. We are using their method to look for nontrivial time-periodic solutions of the Whitham equation.

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