1077-76-1172   **Walter A. Strauss*** (`wstrauss@math.brown.edu`). *Water Waves with Discontinuous Vorticity.*

Classical periodic steady water waves are considered with vorticity that may have jumps or other discontinuities. Thus the velocity of the fluid is not C^1 and the formulation must be a weak one. It is proven that there are waves of large amplitude that bifurcate from a laminar flow. The main tools are classical elliptic theory and degree theory. (Received September 17, 2011)