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**Walter A Strauss\***, wstrauss@math.brown.edu. *Pressure Beneath a Stokes Wave.*

A Stokes wave is a irrotational incompressible periodic 2D steady water wave under the influence of gravity. It is well-known that there is a one-parameter family of such waves. I will prove that the pressure in the fluid strictly increases both (i) with depth and (ii) horizontally toward the crest line. Numerics show that this property of the pressure is sometimes true and sometimes false for rotational flows. (Received September 17, 2011)