A new general solution for long wave propagation over a sloping beach

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In a recent contribution, Carrier, Wu, and Yeh (2003 Tsunami run-up and draw-down
on a plane beach. J. Fluid Mech. 475, 79-99) were able to develop the Green function
representation of the solution of the nonlinear shallow-water wave equations. They
solved the initial value problem and provided solution for any arbitrary initial wave-
form with and without initial velocity employing numerical integration. However, they
were only able to perform satisfactory computation for small initial wave heights for
the case with initial velocity. We will discuss a new solution in which we perform
satisfactory computation for an initial wave with a large initial wave height and ini-
tial velocity. In addition, we will critically examine Carrier, Wu & Yeh (2003) and
compare with the new solution.