

Dam-Break Flow for Arbitrary Slope of the Bottom

R. Fernandez-Feria

ETS Ingenieros Industriales, University of Malaga, Spain

The dam-break flow problem in the shallow-water approximation on an inclined bed for arbitrary slopes of the bottom is considered. An analytical solution for the spreading of the water fronts at the initial stages after the catastrophic failure of the dam is given. A self-similar solution asymptotically valid for large times is also found in a simple closed form. For intermediate times the problem is solved numerically by the method of characteristics.

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