Interaction between turbulent flow and undular permeable boundaries

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Approaches	Superiorities	Limitations
Moving wave maker	Mimics the wave generation in laboratory	Wave maker or inflow boundary induces wave reflection, which can be partially addressed by active wave absorption
Inflow boundary	Offers flexibilities for coupling with other mesh-based models	
Wave relaxation zone		A computational domain at the opposite side of the effective domain is needed, costing extra computational resources
Internal source	Avoids wave reflections from wave-generating boundaries	
Wavy Interface	Reduces CPU time/memory; Flexible in generating regular/irregular waves over complex sea-beds; Potentially extendable to interfacial gas-liquid or internal waves	Reflected waves need to be tracked and considered precisely

Description: -
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Turbulence.
Hydraulics.Interaction between turbulent flow and undular permeable boundaries
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Recherches et travaux (Universite Stendhal-Grenoble 3. U.F.R. de lettres)
Recherches & travaux
Report (Ralph M. Parsons Laboratory for Water Resources and Hydrodynamics) -- no. 180.
Ralph M. Parsons Laboratory for Water Resources and Hydrodynamics. Report -- no. 180.Interaction between turbulent flow and undular permeable boundaries
Notes: Bibliography: p. 167-169.
This edition was published in 1974

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Tags: #interaction #of #giant #planets #with #a #disc #with #MHD #turbulence

On Boundary Layer Separation in the Lee of Mesoscale Topography in: Journal of the Atmospheric Sciences Volume 64 Issue 2 (2007)

The porous media is composed with interconnected staggered cube arrays.

14.9: Viscosity and Turbulence

Snellgrove, The interaction of giant planets with a disc with MHD turbulence — III.

ShieldSquare

First, any obstruction or sharp corner, such as in a faucet, creates turbulence by imparting velocities perpendicular to the flow.

Turbulent flow over an array of boulders placed on a rough, permeable bed

This figure shows a time average of the magnetic contribution to α for run G5.

Numerical study of turbulent flow past a rotating axial

Taylor microscales are not dissipative scales, but pass down the energy from the largest to the smallest without dissipation. For the wide ridge, the hydrostatic wave response is stronger than trapped waves in terms of the vertical displacements. It is also found that, contrary to assumptions in the literature, this amendment to the standard OGT apparatus is most effective when the top of the inner box is located close to the oscillating grid.

14.7 Viscosity and Turbulence

Although there are large fluctuations, the maximum variation at any time is a factor of 3.

These two scales at the extremes of the cascade can differ by several orders of magnitude at high Reynolds numbers.

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