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Actual and mean energies of cylindrical waves at the third order of approximation

Third approximation expressions of the actual and mean energies for Stokes' irrotational waves travelling over a horizontal bottom in any depth are obtained.

The influence of the steepness effect on the mean energies is analysed using the results of a computer numeric investigation.

Energie attuali e medie di onde cilindriche al terzo ordine di approssimazione

Si ricavano le espressioni delle energie attuali e medie per onde irrotazionali di Stokes al terzo ordine di approssimazione che evolvono su profondità limitate e non.

Si analizza l'influenza dell'effetto di ripidità sulle energie medie utilizzando i risultati di una indagine numerica condotta mediante elaboratore elettronico.

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On boundary layer flow with chemical surface reactions

Analysis of the progress of an isothermally chemical reaction on a catalytic surface, which is located in a laminar incompressible hydrodynamic flow field of large Reynolds number. The principal aim was to calculate the establishment of concentration profile in boundary layer.

For this we have derived the equations of the flows consisting of boundary layer and diffusion equations. The last equation was derived taking into account the concentration and the pressure effects.

As application we study the pressure effect of the external flow on the concentration profile for the oscillating flow over a cylinder for an infinite rate chemical reaction.