Détermination des contraintes lors de l'interactionfluide Conduite avec prise en compte du phénomène de cavitation.

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Abstract : A mathematical model has been developed to calculate the transient flow in elastic pipes. This model takes into account the interaction beetwin structure of the pipe and the fluid behavior and the cavitation phenomenon. When the liquid pressure falls below the vapour pressure, a bubbly cavitation occurs and grows in different location of the pipeline. This cavitation can produce sever damage to structure .the application of mass,momentum and energy conservation laws yields to a system of hyperbolic partial differential equations resolved by a MOC with finite differences scheme. The model is tested with experimental data.

Keywords : Water hammer, transient flow, Cavitation