

A General Mathematical Model of Two-Dimensional Horizontal Flow of Seawater Intrusion

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Abstract: In this paper the authors present a general mathematical model of two dimensional horizontal flow of seawater intrusion into coastal confined and unconfined aquifers. Algorithms and programming of this model are formulated by weak Galerkin finite element method for prediction of the transient effect of pumping well on seawater intrusion into coastal confined and unconfined aquifers. The validity of the model is tested by using the analytical solutions. An example was calculated to determine the location of the interface at Hoa Khanh coastal aquifers when one extracts, by pumping well, a certain discharge of freshwater, during a long time, near the interface.

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