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Heating swimming pools in an efficient and ecological way has become mandatory for the protection of the environment, but also for technological development and energy saving. The heating must maintain the quality of bathing water, avoiding temperature variations between the different depths and locations of the pool. There are currently several types of heating systems for swimming pool water among which we can mention; heat pumps, gas heating and electrical resistance, etc. All of these systems are very expensive and voracious in energy consumption. However, solar thermal heaters can be a good solution because they are inexpensive and environmentally friendly. The purpose of this work is to use the COMSOL MultiPhysics software to model the distribution of the flow field velocity and the temperature distribution according to the design of the pool and the inflow and outflow of water and climatic conditions in the province of Nador, in northeastern Morocco.

I declare that the article is authentic and has not been submitted to another journal or review.