

Transient analysis of a liquid solar collector

Abstract

An unsteady state analysis of a liquid solar collector is presented. The physical parameters, which govern the system, are identified. The governing equations have been solved using the fourth order Runge-Kutta method for various values of the parameters. The analysis is carried out for both stagnant water and flowing water in the collector. The theoretical predictions compare well with available experimental data.

Keywords — Flowing water, liquid solar collector, non-dimensional parameter, stagnant water, transient analysis