

FATHER HIMALAYA SOLAR FURNACES: OPTICAL PRINCIPLES, TECHNOLOGIES, AND LINEAGE

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Abstract: Manuel Antonio Gomes, a portuguese priest nicknamed Father Himalaya, is a major solar energy pioneer of the beginnings of XXth century. During five years (1900-1904), he designed, developed and tested various concepts of solar concentrators. The most advanced and largest one was the famous "Pyrheliophor" that won the first prize of World's Fair in Saint Louis (USA).

This paper provides the most complete description currently available of Father Himalaya works in the field of solar furnaces, from their inception in 1899 until the final experiments in 1904. It will present detailed technical descriptions of each version of the solar concentrator and an outline of the research conducted in each phase of the program.

Later concepts, developed by other researchers and based on the optical principles first used by Father Himalaya will also be raised and discussed.

Keywords: Padre Himalaya, Solar furnace, Concentrator, History