windings and the cardinal equations of the dynamics that govern the motion of the mirrors. The analysis allowed the time trend that is actually followed by the reflector to be obtained.

The model made it possible to verify how the kinematic behaviour changes with the variation of the electrical quantities and the geometric characteristics of the reflector.

In the example case presented, the difference between the law of ideal motion and that actually followed by the reflector, and the values of the torque generated by the secondary servomotor are shown. The model presented, allowing assessment of the settling time and the oscillations around the equilibrium position after each step, is useful for a preliminary analysis that leads to the sizing of the various components.

The solution proposed in this work involves, a maximum yield increase of about 10 percentage points at the winter solstice for a plant of 100 m and height of the absorber of 5 m.

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NOMENCLATURE

a	solar azimuth, rad
C	torque, N.m
d	distance of the reflector from the projection of the tube on the ground, m
h	height of the tube, m
i	phase current, A
I	Nominal current, A
J_p	polar moment of inertia, kg.m^2
k	length of the unirradiated tube, m
k_e	torque conversion factor, N.m.A^{-1}
l	length of reflector, m
L	phase inductance, H
M	mass of reflector, kg
N_c	number of pole-pairs
r	radius of gear wheel, m
R	electrical resistance, Ω
s	distance motor-reflector axis, m
s_p	depth of reflector, m
T_{conc}	temperature of secondary reflector, °C
T_{sale}	temperature of molten salt, °C
T_{tubo}	temperature of absorber tube, °C
T_{vetro}	temperature of glass envelope, °C
V	phase voltage, V
x, y, z	spatial coordinates, m

Greek symbols

α	solar altitude, rad
β	tilt angle of mono-axial reflector, rad
ΔL	actuator linear displacement, m
ΔV	nominal voltage, V
θ	rotor angular position, rad
θ_a	azimuth angle of the normal to reflector, rad
θ_α	angular altitude of the normal to reflector, rad
θ_P	angle of primary rotation, degrees
θ_q	angle of secondary rotation, degrees
ρ	surface density, kg.m^{-3}
ω	rotor angular speed, rad.s^{-1}
ω_P	reflector angular speed, rad.s^{-1}

Subscripts

S	sun
a, b	phases of motor