



Conference: Congreso Interdisciplinario de Energías Renovables -
Mantenimiento Industrial - Mecatrónica e Informática

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Title: Diseño y construcción de un pirheliómetro para medición de radiación directa

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El Problema

- CAEF UTBB-CA-4
- “Innovación y Aplicación Tecnológica”
- 2016 Fortalecimiento \$300,000 pesos (No han llegado).
- “Evaluación integral del recurso solar en Nuevo Vallarta, Nayarit”.
- Pirheliómetro \$22,000 dólares (\$400,000 pesos).
- Seguidor solar \$18,000 dólares.

Diseño

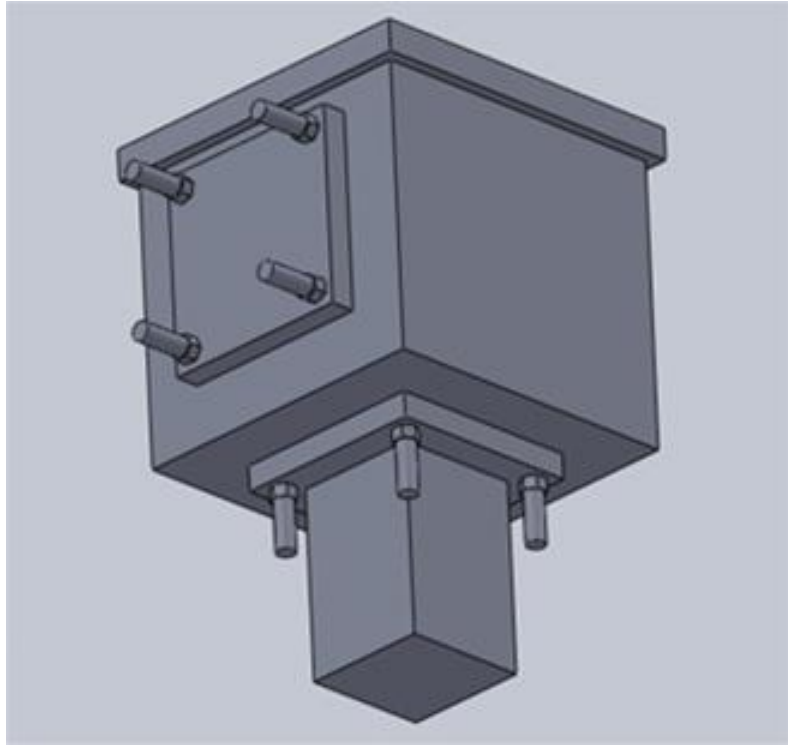
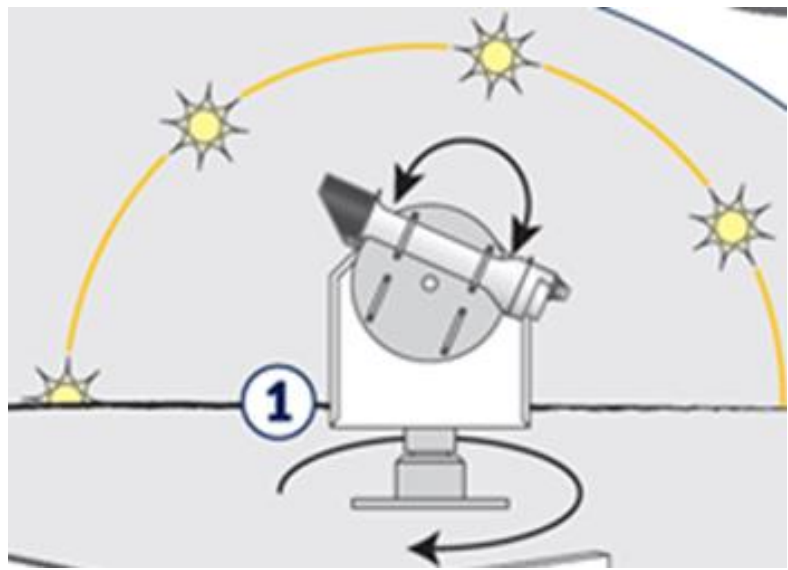
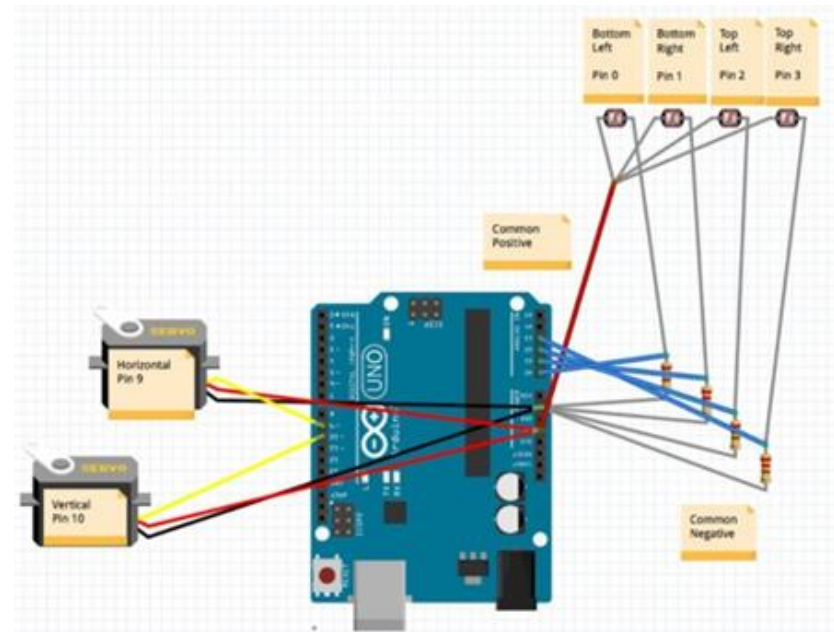


Diagrama de Conexión

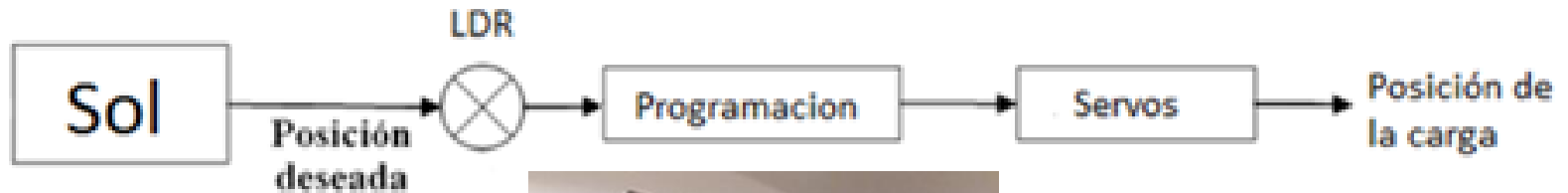
- Pin A0 - LDR1,
- Pin A1 - LDR2,
- Pin A2 - LDR3,
- Pin A3 - LDR4,
- Servo horizontal a pin 9,
- Servo Vertical a pin 10.



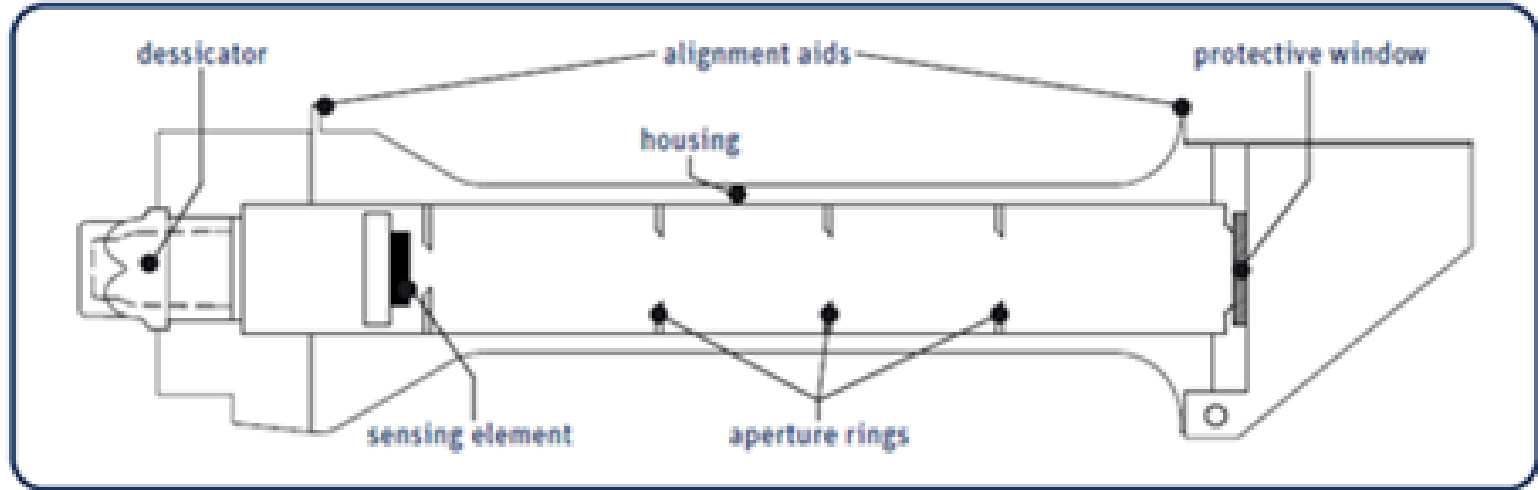
Programación



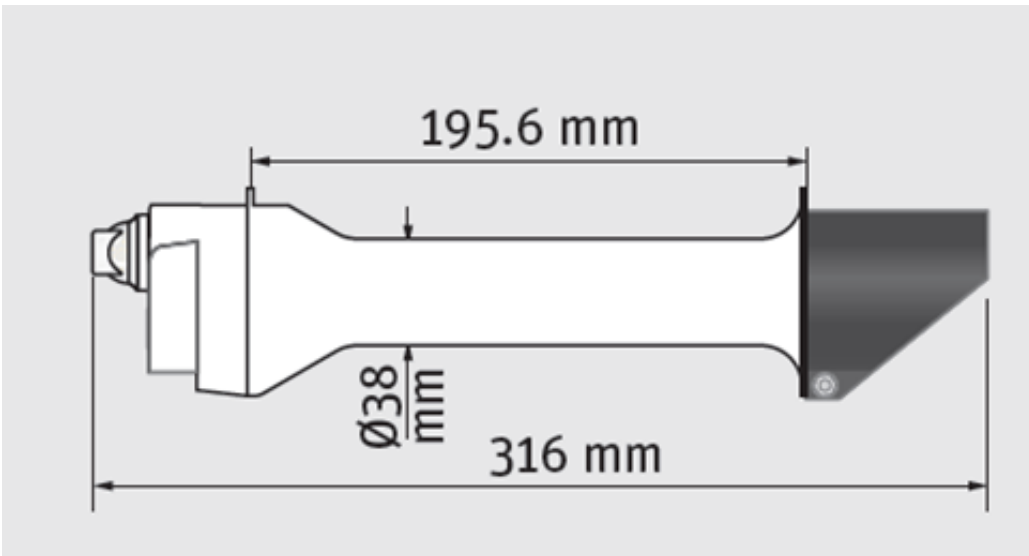
Funcionamiento



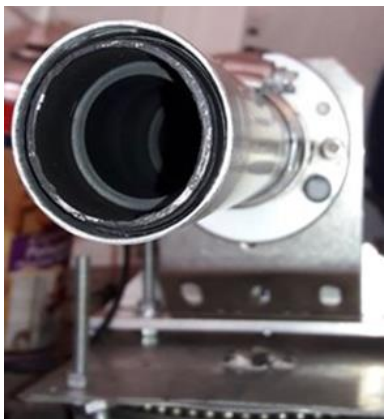
El Pirheliómetro



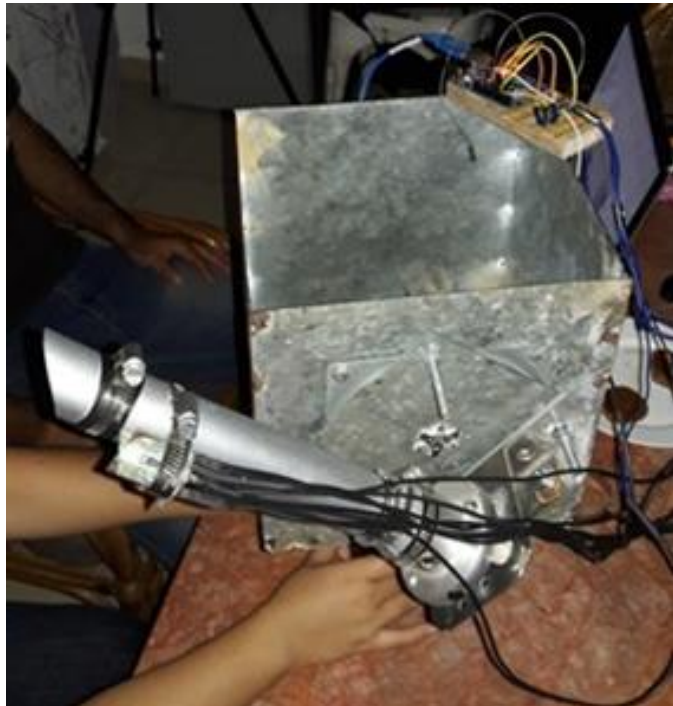
El Piranómetro



El Piranómetro



Pruebas



Conclusiones

- Pirheliómetro.
- Costo original: \$21,797.44 dólares (\$400,000.00 pesos).
- Costo materiales \$3,774.00 pesos.
- Tiempo Invertido: 200 horas-hombre.



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