# A SOLAR STATION FOR EDUCATION AND RESEARCHES ON SOLAR ACTIVITY AT A NATIONAL UNIVERSITY IN PERU

José Kaname Ishitsuka Iba National Astronomical Observatory of Japan - NAOJ Mutsumi Ishitsuka Komaki and Hugo Trigoso A.

Instituto Geofísico del Perú - IGP

#### Contents of my talk

- Instituto Geofísico del Perú and Solar observations in Peru
- New project Solar Station in Universidad Nacional San Luis Gonzaga de Ica
- Future FMT in UNICA

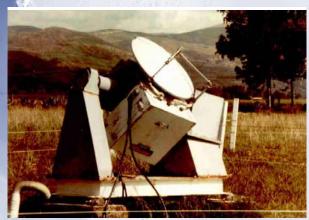
#### **PERU** Huacho Cobija ANGON OBSERVATORE [MAGDAS] MADRE DE DIOS TO THUANCAYO OBSERVATORY Callao CUSCO Huapsavelica PMNillabamba Puerto Maldonado Machupicchu (ruins) Peru Cusco Pisco International boundary PUNO Department boundary BOLIV National capital Department capital Juliaca - Railroad **AREQUIPA** Road 300 Km Arequipa e capital of the Constitutional f Callao which has the status

NOV 30 2006

# Huancayo Observatory

1919





1966

NOV 30 2006





### Huancayo Observatory

- □ 1919:Began the construction of Huancayo Observatory (3300 m)
- 1935:Hale Type Solar Spectroscope installed
- 1957:Mutsumi Ishitsuka arrived to Huancayo
- 1960:Solar observations with a Spectro-heliograph [Hα]
- 1966:Observation with radio Polarimeter at 9.4 GHz
- 1970: Began construction of the Solar Coronagraphic Observatory (4600 m)[5303 Å]

### Cosmos Observatory

1981



Mutsumi Ishitsuka and the Coronagraph





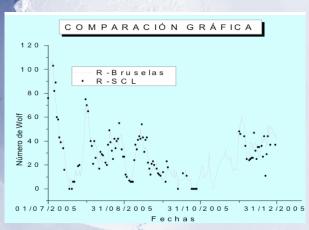
1988



NOV 30 2006

#### Solar Observations





- Sunspot observations at Universidad Nacional San Luis Gonzaga de Ica - UNICA
- □ 15 cm refractor telescope cultural grant from government of Japan

NOV 30 2006

# Refurbishing a Spectrograph





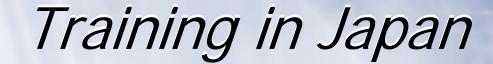
- □ The old coelostat from Huancayo Observatory is refurbished and will be installed in UNICA
- ▼ Valuable collaboration of NAOJ

NOV 30 2006

#### Solar Observatory at UNICA



- UNICA assigned almost 1/20 of the university campus for construction of the observatory
- □ Also assigned founds for construction

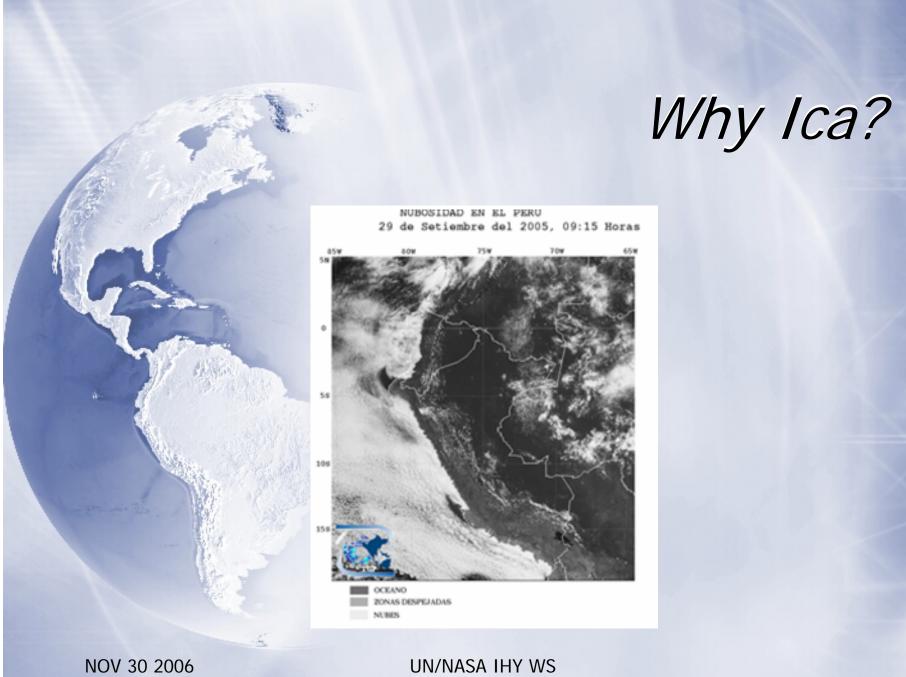




Two graduate students of UNICA visited Japan for training in Solar Observations (October 2006)

 **□** TRIPOD

□ Recycling TRIPOD!



#### Location and weather

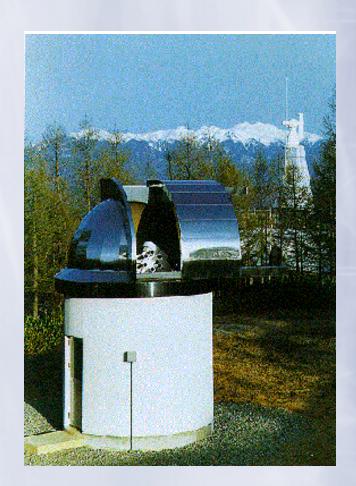
	Rain	Sunny	Temp.	Humidity
Huancayo				Avrg. 60%
Lat.: 12 °	March	October	23 °C	
	No rain			Avrg. 20%
Lat.: 15 °		er - April	27 °C	

Huancayo	Ica
3300 m	80 m

NOV 30 2006

### Flare Monitor Telescope

- ☐ Plans to install FMT in Peru are in progress- CHAIN Project
- **■UNICA?**
- **™ HUANCAYO?**



#### FMT Telescope

- Six 6 cm aperture telescopes
- Ha, center
- + Hα, +0.8 Å
- Hα, -0.8 Å
- Prominence
- Continuum
- Guiding



NOV 30 2006

#### Coclusions

- □ IGP was strengthened by IGY and could contribute enormously to science
- Collaborations must be improved and strengthened
- Installation of FMT is important to improve research and development of science in Peru

#### Candidates for CIPs?





Reactivate and improvement of spectro-helioscope and radio-polarimeter of Huancayo Observatory

#### Good news!



NOV 30 2006