

### Station GPS permanente

IPG Paris

DGF Uchile

Tarapaca Univ.

Site Name: Arica (University of Tarapaca, Arica )	Author : <b>Ruegg / deChabali</b>
Site Code : <b>UTAR</b>	Date installation : <b>2003 12 03</b>
Coordinates : UTAR :    -18.49064157    -70.29650071    87.721	

### DESCRIPTION

North Chili I region, Permanent GPS station from IPGP / DGF network

### MONUMENTATION

Top of the Seismological Centre, University of Tarapaca,  
Campus Saucache, Arica (Chile).

Inox 12 cm rod (Delmont type) sealed in concrete at the top of the on the roof Geodetic\_4  
antena; receptor ZX , and PC portable Dell in the Office

### HISTORIC

Permanent GPS station installed since 05 -DEC- 2003

Tied point AR10 installed on October 1992 during the Vicuna 2 campaign, with some  
auxilliary points. Tying measurements between AR10 and UTAR performed by JB  
DeChabali and JC Ruegg in Dec. 2003

### PRACTICAL INFORMATIONS

state property	<b>YES</b>	<b>NO</b>	Building of Seismological Centre
private property		<b>NO</b>	
access restricted		<b>NO</b>	City office working hours
telephone nearby	<b>YES</b>	<b>NO</b>	See to the Seismological Center Office
Electric power nearby	<b>YES</b>	<b>NO</b>	
equipment storage available	<b>YES</b>	<b>NO</b>	
possibility of leaving the equipment without watching	<b>YES</b>	<b>NO</b>	

person in charge	<b>YES</b>	<b>NO</b>	Prof. Bianca Glass, Directora del Centro Sismologico Lautaro Ponce, University of Tarapaca
person to contact	<b>YES</b>	<b>NO</b>	Nebur Alvarez (Ing.) cell : 815 79 915, off. 058-205619 (058) 205 631 Email : neburx86@gmail.com

## COORDINATES

UTAR\_gps continu : Coordonnees geocentriques :

```
PXYZ 1 UTAR 2040107.756 -5696703.689 -2009987.680
PXYZ 1 AR10 2037635.030 -5697684.103 -2010130.075
PXYZ 1 AR11 2037641.605 -5697679.959 -2010136.388
```

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UTAR\_gps continu : coordonnees geographiques

```
UTAR -70.29650071 -18.49064157 87.721
AR10 -70.32167320 -18.49160399 218.148
AR11 -70.32160136 -18.49166291 218.549
```

**Tying UTAR \_\_ AR10 :**

Baseline vector:

```
AR10 UTAR 2472.689 .0949 980.438 .0416 142.327 .0216
AR11 UTAR 2466.114 .2447 976.294 .2552 148.639 .1138
AR10 AR11 6.575 .2624 4.144 .2584 -6.312 .1158
dX, dY, dZ : 2472.660 980.445 142.321
dE, dN, dU : -2658.405 -106.439 130.456
AR10 UTAR 2658.430 .0895 106.267 .0185 -130.995 .0533
AR11 UTAR 2650.844 .2114 112.789 .0833 -131.393 .2939
AR10 AR11 7.586 .2295 -6.522 .0853 .401 .2984
```

**Approximate coordinates of tying points :**

```
AR10 2037630.606 -5697686.620 -2010135.991 0.0180 -0.0037 0.0108
AR19 2037626.253 -5697688.461 -2010141.780 0.0180 -0.0037 0.0108
```

### UTAR \_ Site Information Form \_\_ International GPS Service for Geodynamics

0. Form

Prepared by (full name) : J.C. Ruegg , J.B. de Chabaliere

Date Prepared : 31-DEC-2003

Report Type : UPDATE

1. Site Identification of the GPS Monument

Site Name : Arica tracking station

Four Character ID : **UTAR**

Monument Inscription :

IERS DOMES Number :

CDP Number : (XXXX)

Date Installed : 05-DEC-2003  
Geologic Characteristic : GRAVEL/SAND  
Bedrock Type : SEDIMENTARY  
Bedrock Condition : on the top of a 2 level building  
Fracture Spacing :  
Notes : installed on the top of the Seismological Centre, Univsity of Tarapaca,  
Campus Saucache, Arica (Chile).  
Local correspondant: Prof. Bianca Glass, Directora del Centro Sismologico Lautaro  
Ponce, University of Tarapaca. Sec. correspondant: Nebur Alvarez  
A steel mark type IPGP/DGF is sealed on the top of the building  
No auxilliary point ;  
Additional Information : Geological Province: Andean Cordillera  
: Local Geology: :  
: Geological information from xxx  
: Program:.

## 2. Site Location Information

City or Town : Arica  
Country : Chile  
Tectonic Plate : South American but in the convergence area of Nazca/ SOAM plates  
Approximate Position  
X coordinate (m) : 2040107.64  
Y coordinate (m) : -5696703.58  
Z coordinate (m) : -2009987.74  
Latitude (deg) : -18.4906  
Longitude (deg) : -70.2965  
Elevation (m) : 87.61

Additional Information : Latitude, Longitude and Elevation derived from Gamit calculation

## 3. GPS Receiver Information

3.1 Receiver Type : ASHTECH Xtreme / UZ-12  
Serial Number : ZR 220023 053  
Firmware Version : 7.xxx ZB00 0A13  
Date Installed : 30-NOV-2003  
Date Removed : (dd-MMM-yyyy hh:mm UT)  
Additional Information : (multiple lines)

3.2 Receiver Type :  
Serial Number :  
Firmware Version : 0  
Date Installed :  
Date Removed : (dd-MMM-yyyy hh:mm UT)

## 4. GPS Antenna Information

4.1 Antenna Type : ASHTECH GEODETIC IV  
Serial Number : 930  
Antenna Height (m) : 0.000 (to be verified)  
Antenna Reference Point : ARP = dhpab  
Degree Offset from North : 0.0  
Antenna Radome Type :  
Date Installed : 30-NOV-2003 hh:mm UT  
Date Removed : (dd-MMM-yyyy hh:mm UT)

4.2 Antenna Type :  
Serial Number :  
Antenna Height (m) :  
Antenna Reference Point :  
Degree Offset from North :

Antenna Radome Type :  
Date Installed : hh:mm UT  
Date Removed :

5. Local Site Ties : local ties to AR10, AR11 points installed in 1992 by IPG Paris

5.1 Monument Name :  
Site Ref CDP Number :  
Site Ref Domes Number :

Differential Components from GPS Mark to Site Reference (ITRS)

dx (m) :  
dy (m) :  
dz (m) :  
Accuracy (mm) : (mm)  
Date Measured : (dd-MMM-yyyy hh:mm UT)  
Additional Information :

6. Frequency Standard : NO

6.1 Standard Type :  
Frequency :  
Effective Dates :

7. Collocation Information

7.x Instrumentation Type : No  
Status : (PERMANENT/MOBILE)  
Effective Dates : (dd-MMM-yyyy - dd-MMM-yyyy)

8. Meteorological Instrumentation : No

8.1 Humidity Sensor Model :  
8.2 Pressure Sensor Model :  
8.3 Temperature Sensor Model :  
8.4 Water Vapor Radiometer :  
8.5 Other Instrumentation : (multiple lines) pm

9. On-Site, Point of Contact Agency Information

Agency : DGF \_ Departamento de Geofisica \_ Universidad de Chile  
Mailing Address : Blanco Encalada 2085, Santiago Chile  
Primary Contact : Jaime Campos Telephone (primary) : 02 678 43 06 Fax :  
E-mail : jaime@dgf.uchile.cl  
Secondary Contact : De Chaballier Jean-Bernard, Ruegg J.Claude , IPG Paris France  
Telephone (primary) : 00 33 1 44 27 48 93 Telephone (secondary) : 303-497-8002  
Fax : 00 33 1 44 27 38 94 E-mail : ruegg@ipgp.jussieu.fr

10. Responsible Agency (if different from 9.)

11. More Information

URL for More Information :

Hardcopy on File  
Site Map : Site Diagram : Horizon Mask  
Monument Description : Site Pictures : Additional Information : (multiple lines)  
Antenna Graphics with Dimensions

ASH701975.01A

```
-----  
 /      \  
 /      +      \  
 /      +      \  
+-----+      <-- 0.05640 L1  
+-----+      <-- 0.06220 L2  
+-----+      <-- 0.0460  
+-----+      <-- 0.0430  
 \      /  
  \      /
```

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<-- 0.000 ARP=TOP

ARP: Antenna Reference Point

L1 : L1 Phase Center

TCR: Top of Choking

L2 : L2 Phase Center

BCR: Bottom of Choking

## ADDITIONAL INFORMATION

Charger :  
Battery :  
Antenna cable  
Dual power connection : A préciser

→ A préciser aussi :  
longueur de cable, situation de la connexion Internet, adresse Ip

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Locations from Google Earth AR10 (aux) and permanent station: UTAR



fotos\_utar2a

- 1 – 2 Geodetic4 antenna on the top of the seismological building
- 3,4 – Details of the antenna; on view 4 arrow indicate the approximate location of AR10
- 5 – View of the Seismological Center building from the North
- 6 - Receptor ZX and computer inside the seismological building

