

>> Cloud_radar_94_ZEN_LV0_nc

Source:

D:\Data\Cloud
radar\Delft\2011126_170002_P01_ZEN.LV0
.NC

Format:

netcdf4

Global Attributes:

Program name = 'Doppler 3 sec'

Customer = 'DELFT 1'

Dimensions:

TAlt = 93

HAlt = 93

Chirp = 3

C1Range = 20

C1Vel = 512

C2Range = 53

C2Vel = 1024

C3Range = 265

C3Vel = 256

Time = 1067

Variables:

ProgNo

Size: 1x1

Dimensions:

Datatype: int32

Attributes:

Name = 'Chirp generator
program number'

ModelNo

Size: 1x1

Dimensions:

Datatype: int32

Attributes:

Name = 'Radar configuration:
0 - 94 GHz single pol, 1 - 94 GHz STSR, 2 -
94 GHz LDR'

Freq

Size: 1x1

Dimensions:

Datatype: single

Attributes:

Name = 'Carrier frequency of
the radar active channel'

Units = 'GHz'

AntSep

Size: 1x1

Dimensions:

Datatype: single

Attributes:

Name = 'Distance between
antenna axes'

Units = 'm'

AntDia

Size: 1x1

Dimensions:

Datatype: single

Attributes:

Name = 'Antenna diameter'

Units = 'm'

AntG

Size: 1x1

Dimensions:

Datatype: single

Attributes:

Name = 'Antenna gain'

Units = 'linear'

HPBW

Size: 1x1

Dimensions:

Datatype: single

Attributes:

Name = 'Antenna one way
half power beam width'

Units = 'deg'

RadarConst

Size: 1x1

Dimensions:

Datatype: single

Attributes:

Name = 'Radar constant. For
details see eq. 2.1.5 of the radar manual'

Units = 'linear'

DualPol

Size: 1x1

Dimensions:

Datatype: char

Attributes:

Name = 'Polarimetric
configuration. 0: Single pol, 1: LDR mode,
2: STSR mode'

CompEna

Size: 1x1

Dimensions:

Datatype: char

Attributes:

Name = 'Spectral
compression flag. 0: not compressed, 1:
spectra compressed, 2: spectra
compressed and spectral polarimetric
variables are stored in the file'

AntiAlias

Size: 1x1

Dimensions:

Datatype: char

Attributes:

Name = 'Antialiasing status. 0
- Spectra are not antialiased, 1 - Spectra
have been antialiased.'

SampDur

Size: 1x1

Dimensions:

Datatype: single

Attributes:

Name = 'Sample duration'

Units = 's'

GPSLat

Size: 1x1

Dimensions:

Datatype: single

Attributes:

Name = 'GPS latitude'

Units = 'deg'

GPSLon	Units = 'm'
Size: 1x1	ChirpNum
Dimensions:	Size: 1x1
Datatype: single	Dimensions:
Attributes:	Datatype: int32
Name = 'GPS longitude'	Attributes:
Units = 'deg'	Name = 'Number of chirp sequences'
CallInt	DopplLen
Size: 1x1	Size: 3x1
Dimensions:	Dimensions: Chirp
Datatype: int32	Datatype: int32
Attributes:	Attributes:
Name = 'Time period for automatic zero calibrations'	Name = 'Number of spectral lines in Doppler spectra'
Units = 'Number of samples'	AvgNum
TALts	Size: 3x1
Size: 93x1	Dimensions: Chirp
Dimensions: TAlt	Datatype: int32
Datatype: single	Attributes:
Attributes:	Name = 'Number of chirps averaged (coherently and non-coherently) for a single time sample'
Name = 'Temperature profile altitude layers'	SeqIntTime
Units = 'm'	Size: 3x1
HALts	Dimensions: Chirp
Size: 93x1	Datatype: single
Dimensions: HAlt	Attributes:
Datatype: single	Name = 'Effective integration time'
Attributes:	Units = 's'
Name = 'Humidity profile altitude layers'	

RangeRes

Size: 3x1

Dimensions: Chirp

Datatype: single

Attributes:

Name = 'Range resolution'

Units = 'm'

MaxVel

Size: 3x1

Dimensions: Chirp

Datatype: single

Attributes:

Name = 'Unambiguous
Doppler velocity (+/-)'

Units = 'm/s'

ChanBW

Size: 3x1

Dimensions: Chirp

Datatype: single

Attributes:

Name = 'Bandwidth of
individual radar channel (range gate)'

Units = 'Hz'

ChirpLowIF

Size: 3x1

Dimensions: Chirp

Datatype: int32

Attributes:

Name = 'Lowest IF frequency'

Units = 'Hz'

ChirpHighIF

Size: 3x1

Dimensions: Chirp

Datatype: int32

Attributes:

Name = 'Highest IF
frequency'

Units = 'Hz'

ChirpFFTSize

Size: 3x1

Dimensions: Chirp

Datatype: int32

Attributes:

Name = 'Ranging FFT size'

ChirpInvSamp

Size: 3x1

Dimensions: Chirp

Datatype: int32

Attributes:

Name = 'Number of invalid
samples at the beginning of chirps'

ChirpCenterFreq

Size: 3x1

Dimensions: Chirp

Datatype: single

Attributes:

Name = 'Chirp centre
frequency at radar transmitter output'

Units = 'MHz'

ChirpBW

Size: 3x1	Name = 'Maximum unambiguous range'
Dimensions: Chirp	Units = 'm'
Datatype: single	SupPowLev
FFTStartInd	Size: 1x1
Size: 3x1	Dimensions:
Dimensions: Chirp	Datatype: char
Datatype: int32	Attributes:
Attributes:	Name = 'Flag indicating, if power leveling has been suppressed. 1 - yes, 0 - no'
Name = 'Start index in ranging FFT'	SpkFilEna
FFTStopInd	Size: 1x1
Size: 3x1	Dimensions:
Dimensions: Chirp	Datatype: char
Datatype: int32	Attributes:
Attributes:	Name = 'Flag indicating, if spike/plankton filter has been used. 0 - no, 1 - yes'
Name = 'Last index in ranging FFT'	PhaseCor
SampRate	Size: 1x1
Size: 1x1	Dimensions:
Dimensions:	Datatype: char
Datatype: int32	Attributes:
Attributes:	Name = 'Flag indicating, if differential phase correction has been used (only for dual pol radars). 0 - no, 1 - yes'
Name = 'ADC sampling rate'	RelPowCor
Units = 'Hz'	Size: 1x1
MaxRange	Dimensions:
Size: 1x1	Datatype: char
Dimensions:	
Datatype: int32	
Attributes:	

Attributes:

Name = 'Flag indicating, if relative power correction has been used (only for dual pol radars). 0 - no, 1 - yes'

FFTWIn

Size: 1x1

Dimensions:

Datatype: char

Attributes:

Name = 'FFT windows in use (for both ranging and Doppler FFT). 0 - Square, 1 - Parzen, 2 - Blackman, 3 - Welch, 4 - Slepian2, 5 - Slepian3'

FFTInRng

Size: 1x1

Dimensions:

Datatype: uint16

Attributes:

Name = 'ADC input voltage range (+/-)'

Units = 'mV'

SWVersion

Size: 1x1

Dimensions:

Datatype: uint16

Attributes:

Name = 'Software Version (*100)'

NoiseFilt

Size: 1x1

Dimensions:

Datatype: single

Attributes:

Name = 'Noise filter threshold factor (multiple of power noise density STD)'

CalibCorr

Size: 1x1

Dimensions:

Datatype: single

Attributes:

Name = 'Calibration correction derived from Dysdrometer measurement'

Time

Size: 1067x1

Dimensions: Time

Datatype: uint32

Attributes:

Name = 'Time'

Units = 'Number of seconds since 1/1/2001 00:00:00 [UTC]'

Timems

Size: 1067x1

Dimensions: Time

Datatype: int32

Attributes:

Name = 'Milliseconds'

Units = 'ms'

QualFlag

Size: 1067x1

Dimensions: Time

Datatype: char

Attributes:

Name = 'Quality flag. Bit 1:
ADC saturation, Bit 2: spectral width too
high, Bit 3: no transmitter power leveling'

Rain

Size: 1067x1

Dimensions: Time

Datatype: single

Attributes:

Name = 'Rain rate from
weather station'

Units = 'mm/h'

SurfRelHum

Size: 1067x1

Dimensions: Time

Datatype: single

Attributes:

Name = 'Relative humidity
from weather station'

Units = '%'

SurfTemp

Size: 1067x1

Dimensions: Time

Datatype: single

Attributes:

Name = 'Surface
temperature from weather station'

Units = 'K'

SurfPres

Size: 1067x1

Dimensions: Time

Datatype: single

Attributes:

Name = 'Surface atmospheric
pressure from weather station'

Units = 'hPa'

SurfWS

Size: 1067x1

Dimensions: Time

Datatype: single

Attributes:

Name = 'Surface wind speed
from weather station'

Units = 'm/s'

SurfWD

Size: 1067x1

Dimensions: Time

Datatype: single

Attributes:

Name = 'Surface wind
direction from weather station'

Units = 'deg'

DDVolt

Size: 1067x1

Dimensions: Time

Datatype: single

Attributes:

Name = 'Direct detection
channel voltage'

Units = 'V'

DDTb

Size: 1067x1

Dimensions: Time
Datatype: single
Attributes:
Name = 'Direct detection
brightness temperature'
Units = 'K'

LWP

Size: 1067x1
Dimensions: Time
Datatype: single
Attributes:
Name = 'Liquid water path'
Units = 'g/m²'

PowIF

Size: 1067x1
Dimensions: Time
Datatype: single
Attributes:
Name = 'IF power at ADC'
Units = 'uW'

Elv

Size: 1067x1
Dimensions: Time
Datatype: single
Attributes:
Name = 'Elevation'
Units = 'deg'

Azm

Size: 1067x1
Dimensions: Time

Datatype: single
Attributes:
Name = 'Azimuth'
Units = 'deg'

Status

Size: 1067x1
Dimensions: Time
Datatype: single
Attributes:
Name = 'Mitigation status
flags. 0/1: heater switch (ON/OFF), 0/10:
blower switch (ON/OFF), 0/100: temp.
profile (ON/OFF), 0/1000: hum. profile
(ON/OFF)'

TPow

Size: 1067x1
Dimensions: Time
Datatype: single
Attributes:
Name = 'Transmitted power'
Units = 'W'

TTemp

Size: 1067x1
Dimensions: Time
Datatype: single
Attributes:
Name = 'Transmitter
temperature'
Units = 'K'

RTemp

Size: 1067x1

Dimensions: Time
Datatype: single
Attributes:
 Name = 'Receiver
temperature'
 Units = 'K'
PCTemp
 Size: 1067x1
 Dimensions: Time
 Datatype: single
 Attributes:
 Name = 'PC temperature'
 Units = 'K'
CBH
 Size: 1067x1
 Dimensions: Time
 Datatype: single
 Attributes:
 Name = 'Cloud Bottom
Height'
 Units = 'm'
Inc_El
 Size: 1067x1
 Dimensions: Time
 Datatype: single
 Attributes:
 Name = 'Elevation
Inclination'
 Units = 'deg'
Inc_EIA

Size: 1067x1
Dimensions: Time
Datatype: single
Attributes:
 Name = 'Elevation Axis
Inclination'
 Units = 'deg'
TProf
 Size: 93x1067
 Dimensions: TAlt,Time
 Datatype: single
 Attributes:
 Name = 'Temperature
profiles from RPG radiometer'
 Units = 'K'
AHProf
 Size: 93x1067
 Dimensions: HAlt,Time
 Datatype: single
 Attributes:
 Name = 'Absolute humidity
profiles from RPG radiometer'
 Units = 'g/m^3'
RHProf
 Size: 93x1067
 Dimensions: HAlt,Time
 Datatype: single
 Attributes:
 Name = 'Relative humidity
profiles from RPG radiometer'
 Units = '%'

C1PNv

Size: 20x1067

Dimensions: C1Range,Time

Datatype: single

Attributes:

Name = 'Total IF power at
vertical polarization measured at ADC
input: Chirp 1'

Units = 'W'

C1SLv

Size: 20x1067

Dimensions: C1Range,Time

Datatype: single

Attributes:

Name = 'Sensitivity limit for
vertical polarization: Chirp 1'

Units = 'mm^6/m^3'

C1PNh

Size: 20x1067

Dimensions: C1Range,Time

Datatype: single

Attributes:

Name = 'Total IF power at
horizontal polarization measured at ADC
input: Chirp 1'

Units = 'W'

C1SLh

Size: 20x1067

Dimensions: C1Range,Time

Datatype: single

Attributes:

Name = 'Sensitivity limit for
horizontal polarization: Chirp 1'

Units = 'mm^6/m^3'

C2PNv

Size: 53x1067

Dimensions: C2Range,Time

Datatype: single

Attributes:

Name = 'Total IF power at
vertical polarization measured at ADC
input: Chirp 2'

Units = 'W'

C2SLv

Size: 53x1067

Dimensions: C2Range,Time

Datatype: single

Attributes:

Name = 'Sensitivity limit for
vertical polarization: Chirp 2'

Units = 'mm^6/m^3'

C2PNh

Size: 53x1067

Dimensions: C2Range,Time

Datatype: single

Attributes:

Name = 'Total IF power at
horizontal polarization measured at ADC
input: Chirp 2'

Units = 'W'

C2SLh

Size: 53x1067

Dimensions: C2Range,Time
Datatype: single
Attributes:
Name = 'Sensitivity limit for horizontal polarization: Chirp 2'
Units = 'mm^6/m^3'

C3PNv

Size: 265x1067
Dimensions: C3Range,Time
Datatype: single
Attributes:
Name = 'Total IF power at vertical polarization measured at ADC input: Chirp 3'
Units = 'W'

C3SLv

Size: 265x1067
Dimensions: C3Range,Time
Datatype: single
Attributes:
Name = 'Sensitivity limit for vertical polarization: Chirp 3'
Units = 'mm^6/m^3'

C3PNh

Size: 265x1067
Dimensions: C3Range,Time
Datatype: single
Attributes:
Name = 'Total IF power at horizontal polarization measured at ADC input: Chirp 3'

Units = 'W'

C3SLh

Size: 265x1067
Dimensions: C3Range,Time
Datatype: single
Attributes:
Name = 'Sensitivity limit for horizontal polarization: Chirp 3'
Units = 'mm^6/m^3'

C1Fr

Size: 20x1
Dimensions: C1Range
Datatype: int32
Attributes:
Name = 'Range factor'

C1Range

Size: 20x1
Dimensions: C1Range
Datatype: single
Attributes:
Name = 'Range'

C2Fr

Size: 53x1
Dimensions: C2Range
Datatype: int32
Attributes:
Name = 'Range factor'

C2Range

Size: 53x1
Dimensions: C2Range

Datatype: single	Units = 'mm^6/m^3'
Attributes:	C1ReVHSpec
Name = 'Range'	Size: 512x20x1067
C3Fr	Dimensions: C1Vel,C1Range,Time
Size: 265x1	Datatype: single
Dimensions: C3Range	Attributes:
Datatype: int32	Name = 'Real part of
Attributes:	covariance spectrum: Chirp 1'
Name = 'Range factor'	Units = 'mm^6/m^3'
C3Range	C1ImVHSpec
Size: 265x1	Size: 512x20x1067
Dimensions: C3Range	Dimensions: C1Vel,C1Range,Time
Datatype: single	Datatype: single
Attributes:	Attributes:
Name = 'Range'	Name = 'Imaginary part of
C1VSpec	covariance spectrum: Chirp 1'
Size: 512x20x1067	Units = 'mm^6/m^3'
Dimensions: C1Vel,C1Range,Time	C2VSpec
Datatype: single	Size: 1024x53x1067
Attributes:	Dimensions: C2Vel,C2Range,Time
Name = 'Doppler spectrum at	Datatype: single
vertical polarization: Chirp 1'	Attributes:
Units = 'mm^6/m^3'	Name = 'Doppler spectrum at
C1HSpec	vertical polarization: Chirp 2'
Size: 512x20x1067	Units = 'mm^6/m^3'
Dimensions: C1Vel,C1Range,Time	C2HSpec
Datatype: single	Size: 1024x53x1067
Attributes:	Dimensions: C2Vel,C2Range,Time
Name = 'Doppler spectrum at	Datatype: single
horizontal polarization: Chirp 1'	Attributes:

Name = 'Doppler spectrum at horizontal polarization: Chirp 2'

Units = 'mm⁶/m³'

C2ReVHSpec

Size: 1024x53x1067

Dimensions: C2Vel,C2Range,Time

Datatype: single

Attributes:

Name = 'Real part of covariance spectrum: Chirp 2'

Units = 'mm⁶/m³'

C2ImVHSpec

Size: 1024x53x1067

Dimensions: C2Vel,C2Range,Time

Datatype: single

Attributes:

Name = 'Imaginary part of covariance spectrum: Chirp 2'

Units = 'mm⁶/m³'

C3VSpec

Size: 256x265x1067

Dimensions: C3Vel,C3Range,Time

Datatype: single

Attributes:

Name = 'Doppler spectrum at vertical polarization: Chirp 3'

Units = 'mm⁶/m³'

C3HSpec

Size: 256x265x1067

Dimensions: C3Vel,C3Range,Time

Datatype: single

Attributes:

Name = 'Doppler spectrum at horizontal polarization: Chirp 3'

Units = 'mm⁶/m³'

C3ReVHSpec

Size: 256x265x1067

Dimensions: C3Vel,C3Range,Time

Datatype: single

Attributes:

Name = 'Real part of covariance spectrum: Chirp 3'

Units = 'mm⁶/m³'

C3ImVHSpec

Size: 256x265x1067

Dimensions: C3Vel,C3Range,Time

Datatype: single

Attributes:

Name = 'Imaginary part of covariance spectrum: Chirp 3'

Units = 'mm⁶/m³'

C1VNoisePow

Size: 20x1067

Dimensions: C1Range,Time

Datatype: single

Attributes:

Name = 'Integrated Doppler spectrum noise power in vertical channel: Chirp 1'

Units = 'mm⁶/m³'

C1HNoisePow

Size: 20x1067

Dimensions: C1Range,Time
Datatype: single
Attributes:
Name = 'Integrated Doppler
spectrum noise pover in horizontal
channel: Chirp 1'

Units = 'mm^6/m^3'

C2VNoisePow

Size: 53x1067

Dimensions: C2Range,Time

Datatype: single

Attributes:

Name = 'Integrated Doppler
spectrum noise pover in vertical channel:
Chirp 2'

Units = 'mm^6/m^3'

C2HNoisePow

Size: 53x1067

Dimensions: C2Range,Time

Datatype: single

Attributes:

Name = 'Integrated Doppler
spectrum noise pover in horizontal
channel: Chirp 2'

Units = 'mm^6/m^3'

C3VNoisePow

Size: 265x1067

Dimensions: C3Range,Time

Datatype: single

Attributes:

Name = 'Integrated Doppler
spectrum noise pover in vertical channel:
Chirp 3'

Units = 'mm^6/m^3'

C3HNoisePow

Size: 265x1067

Dimensions: C3Range,Time

Datatype: single

Attributes:

Name = 'Integrated Doppler
spectrum noise pover in horizontal
channel: Chirp 3'

Units = 'mm^6/m^3'

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