

Technical description of WOVOdat database 1.1

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Introduction

This description brings a technical insight of the database, which is important for a good understanding of WOVOdat's complex structure. The developers may thus use this document as a reference for their work. For each table of the database, the fields, indexes, links and constraints are described.

Constraint example:

Field	Restriction
ds_code AND (cc_id OR cc_id2 OR cc_id3) AND [ds_stime, ds_etime]	UNIQUE

means that for a certain period [ds_stime, ds_etime], there must be only one record with the same couple (code, owner ID).

cb – Bibliographic

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
cb_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
cb_auth	varchar(255)		Yes	NULL			Authors/Editors
cb_year	year(4)		Yes	NULL			Publication year
cb_title	varchar(255)		Yes	NULL			Title
cb_journ	varchar(255)		Yes	NULL			Journal
cb_vol	varchar(20)		Yes	NULL			Volume
cb_pub	varchar(50)		Yes	NULL			Publisher
cb_page	varchar(30)		Yes	NULL			Pages
cb_doi	varchar(20)		Yes	NULL			Digital Object Identifier
cb_isbn	varchar(13)		Yes	NULL			International Standard Book Number
cb_url	varchar(255)		Yes	NULL			Info on the web
cb_labadr	varchar(320)		Yes	NULL			Email address of observatory
cb_keywords	varchar(255)		Yes	NULL			Keywords
cb_loaddate	datetime		Yes	NULL			Load date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	cb_id

Links:

Field	Link to
cc_id_load	cc.cc_id

Restrictions:

None.

cc – Contact

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
cc_id	smallint(5)	UNSIGNED	No		auto_increment		ID
cc_code	varchar(15)		Yes	NULL			Code
cc_code2	varchar(15)		Yes	NULL			Code alias
cc_fname	varchar(30)		Yes	NULL			First name
cc_lname	varchar(30)		Yes	NULL			Last name
cc_obs	varchar(150)		Yes	NULL			Observatory
cc_add1	varchar(60)		Yes	NULL			Address 1
cc_add2	varchar(60)		Yes	NULL			Address 2
cc_city	varchar(50)		Yes	NULL			City
cc_state	varchar(30)		Yes	NULL			State
cc_country	varchar(50)		Yes	NULL			Country
cc_post	varchar(30)		Yes	NULL			Postal code
cc_url	varchar(255)		Yes	NULL			Web address
cc_email	varchar(320)		Yes	NULL			Email
cc_phone	varchar(50)		Yes	NULL			Phone
cc_phone2	varchar(50)		Yes	NULL			Phone 2

cc_fax	varchar(60)		Yes	<i>NULL</i>			Fax
cc_com	varchar(255)		Yes	<i>NULL</i>			Comments
cc_loaddate	datetime		Yes	<i>NULL</i>			Load date

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	cc_id
CODE	UNIQUE	cc_code

Links:

None.

Restrictions:

None.

ch – Change

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
ch_id	smallint(5)	UNSIGNED	No		auto_increment		ID
ch_linkname	enum('cb', 'cc', 'ch', 'cm', 'cn', 'co', 'cp', 'cr', 'cr_tmp', 'cs', 'cu', 'dd_ang', 'dd_edm', 'dd_gps', 'dd_gpv', 'dd_lev', 'dd_sar', 'dd_srd', 'dd_str', 'dd_tlt', 'dd_tlv', 'di_gen', 'di_tlt', 'ds', 'ed', 'ed_for', 'ed_phs', 'ed_vid', 'fd_ele', 'fd_gra', 'fd_mag', 'fd_mgv', 'fi', 'fs', 'gd', 'gd_plu', 'gd_sol', 'gi', 'gs', 'hd', 'hi', 'hs', 'ip_hyd', 'ip_mag', 'ip_pres', 'ip_sat', 'ip_tec', 'jj_concon', 'jj_imgx', 'jj_subnet', 'jj_volcon', 'jj_volnet', 'j_sarsat', 'md', 'sd_evn', 'sd_evs', 'sd_int', 'sd_ivl', 'sd_rsm', 'sd_sam', 'sd_ssm', 'sd_trm', 'sd_wav', 'si', 'si_cmp', 'sn', 'ss', 'st_eqt', 'td', 'td_img', 'td_pix', 'ti', 'ts', 'vd', 'vd_inf', 'vd_mag', 'vd_tec')		Yes	NULL			Table
ch_link_id	mediumint(8)		Yes	NULL			Link ID
ch_atname	varchar(30)		Yes	NULL			Field name
ch_desc	varchar(255)		Yes	NULL			Description
ch_loaddate	datetime		Yes	NULL			Load date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	ch_id

Links:

Field	Link to
ch_link_id	ch_linkname.ch_linkname_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
ch_atname	ch_linkname.ch_atname exists

cm – Image

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
cm_id	smallint(5)	UNSIGNED	No		auto_increment		ID
cm_code	varchar(30)		Yes	NULL			Code
vd_id	mediumint(8)	UNSIGNED	Yes	NULL			Volcano ID
cm_lat	double		Yes	NULL		°	Latitude
cm_lon	double		Yes	NULL		°	Longitude
cm_location	varchar(255)		Yes	NULL			Location
cm_description	varchar(255)		Yes	NULL			Description
cm_format	varchar(10)		Yes	NULL			Format
cm_date	datetime		Yes	NULL			Date
cm_date_unc	datetime		Yes	NULL			Date uncertainty
cm_image	varchar(255)		Yes	NULL			Data
cm_usage	varchar(255)		Yes	NULL			Usage
cm_keywords	varchar(255)		Yes	NULL			Keywords
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Owner ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Owner 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Owner 3 ID

cm_loaddate	datetime		Yes	NULL			Load date
cm_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	cm_id
CODE	INDEX	cm_code
VOLCANO	INDEX	vd_id
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3

Links:

Field	Link to
vd_id	vd.vd_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
cm_lat	$-90 \leq x \leq 90$
cm_lon	$-180 \leq x \leq 180$
cm_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

cn – Common network

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
cn_id	smallint(5)	UNSIGNED	No		auto_increment		ID
cn_code	varchar(30)		Yes	NULL			Code
vd_id	mediumint(8)	UNSIGNED	Yes	NULL			Volcano ID
cn_sub	tinyint(1)		No	0			Has sub-networks? 0=FALSE, 1=TRUE
cn_name	varchar(255)		Yes	NULL			Name
cn_type	enum('Deformation','Fields','Gas','Hydrologic','Thermal','Unknown')		No	Unknown			Type
cn_area	float		Yes	NULL		km ²	Area
cn_map	varchar(255)		Yes	NULL			Map
cn_stime	datetime		No	0000-00-00 00:00:00			Start time
cn_stime_unc	datetime		Yes	NULL			Start time uncertainty
cn_etime	datetime		No	9999-12-31 23:59:59			End time
cn_etime_unc	datetime		Yes	NULL			End time uncertainty
cn_utc	float		Yes	NULL			Difference from UTC

cn_desc	varchar(255)		Yes	NULL			Description
cn_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Owner ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Owner 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Owner 3 ID
cn_loaddate	datetime		Yes	NULL			Load date
cn_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	cn_id
CODE	INDEX	cn_code
TYPE	INDEX	cn_type
VOLCANO	INDEX	vd_id
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3

Links:

Field	Link to
vd_id	vd.vd_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
cn_stime	$\leq cn_etime$
cn_code AND cn_type AND (cc_id OR cc_id2 OR cc_id3) AND [cn_stime, cn_etime]	UNIQUE

co – Observation

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
co_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
co_code	varchar(30)		Yes	NULL			Code
vd_id	mediumint(8)	UNSIGNED	Yes	NULL			Volcano ID
co_observe	text		Yes	NULL			Description
co_stime	datetime		Yes	NULL			Start time
co_stime_unc	datetime		Yes	NULL			Start time uncertainty
co_etime	datetime		Yes	NULL			End time
co_etime_unc	datetime		Yes	NULL			End time uncertainty
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Observer ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Observer 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Observer 3 ID
co_loaddate	datetime		Yes	NULL			Load date
co_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	co_id
CODE	INDEX	co_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
VOLCANO	INDEX	vd_id

Links:

Field	Link to
vd_id	vd.vd_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
co_stime	$\leq co_etime$
co_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

cp – Permission

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
cp_id	tinyint(3)	UNSIGNED	No		auto_increment		ID
cr_id	tinyint(3)	UNSIGNED	Yes	<i>NULL</i>			Registry ID
cp_access	enum('0','1','2','3','4','5','6','7','8','9')		No	9			Access level: 0=Developer, 9=Minimum access
cp_com	varchar(255)		Yes	<i>NULL</i>			Comments
cc_id_load	smallint(5)	UNSIGNED	Yes	<i>NULL</i>			Loader ID

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	cp_id
REGISTERED USER	UNIQUE	cr_id

Links:

Field	Link to
cr_id	cr.cr_id
cc_id_load	cc.cc_id

Restrictions:

None.

cr – Registry

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
cr_id	tinyint(3)	UNSIGNED	No		auto_increment		ID
cc_id	smallint(5)	UNSIGNED	Yes	<i>NULL</i>			User ID
cr_uname	varchar(30)		No				Username
cr_pwd	varchar(60)		Yes	<i>NULL</i>			Password
cr_regdate	datetime		Yes	<i>NULL</i>			Registration date
cr_update	datetime		Yes	<i>NULL</i>			Last update

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	cr_id
CONTACT	UNIQUE	cc_id
USERNAME	UNIQUE	cr_uname

Links:

Field	Link to
cc_id	cc.cc_id

Restrictions:

None.

cr_tmp – Temporary registry

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
cr_tmp_id	smallint(5)	UNSIGNED	No		auto_increment		ID
cr_tmp_time	datetime		No				Time
cr_tmp_email	varchar(320)		No				Email
cr_tmp_fname	varchar(30)		Yes	NULL			First name
cr_tmp_lname	varchar(30)		Yes	NULL			Last name
cr_tmp_obs	varchar(150)		Yes	NULL			Observatory
cr_tmp_add1	varchar(60)		Yes	NULL			Address 1
cr_tmp_add2	varchar(60)		Yes	NULL			Address 2
cr_tmp_city	varchar(50)		Yes	NULL			City
cr_tmp_state	varchar(30)		Yes	NULL			State/Province
cr_tmp_country	varchar(50)		Yes	NULL			Country
cr_tmp_post	varchar(30)		Yes	NULL			Postal code
cr_tmp_url	varchar(255)		Yes	NULL			Web address
cr_tmp_phone	varchar(50)		Yes	NULL			Phone
cr_tmp_phone2	varchar(50)		Yes	NULL			Phone 2
cr_tmp_fax	varchar(60)		Yes	NULL			Fax

cr_tmp_com	varchar(255)		Yes	<i>NULL</i>			Comments
cr_tmp_uname	varchar(30)		No				Username
cr_tmp_pwd	varchar(60)		Yes	<i>NULL</i>			Password

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	cr_tmp_id
USERNAME	UNIQUE	cr_tmp_uname

Links:

None.

Restrictions:

None.

cs – Satellite

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
cs_id	smallint(5)	UNSIGNED	No		auto_increment		ID
cs_code	varchar(30)		Yes	NULL			Code
cs_type	enum('S', 'A')		Yes	NULL			Type (A=Airplane, S=Satellite)
cs_name	varchar(50)		Yes	NULL			Name
cs_stime	datetime		No	0000-00-00 00:00:00			Start time
cs_stime_unc	datetime		Yes	NULL			Start time uncertainty
cs_etime	datetime		No	9999-12-31 23:59:59			End time
cs_etime_unc	datetime		Yes	NULL			End time uncertainty
cs_desc	varchar(255)		Yes	NULL			Description
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Owner ID
cs_loaddate	datetime		Yes	NULL			Load date
cs_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	cs_id
CODE	INDEX	cs_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3

Links:

Field	Link to
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
cs_stime	$\leq cs_etime$
cs_code AND (cc_id OR cc_id2 OR cc_id3) AND [cs_stime, cs_etime]	UNIQUE

cu – Upload history

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
cu_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
cu_file	varchar(255)		No				Original file name
cu_type	enum('I', 'N', 'U', 'T', 'W', 'F')		Yes	NULL			Type of upload: I=In database, N=Not in database, U=Undone, T=Temporary, W=translated to WOVOML , F=Failed
cu_com	text		Yes	NULL			Comments or error message
cu_loaddate	datetime		Yes	NULL			Load date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	cu_id

Links:

Field	Link to
cc_id_load	cc.cc_id

Restrictions:

None.

dd_ang – Angle

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
dd_ang_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
dd_ang_code	varchar(30)		Yes	NULL			Code
di_gen_id	mediumint(8)	UNSIGNED	Yes	NULL			General deformation instrument ID
ds_id	mediumint(8)	UNSIGNED	Yes	NULL			Instrument station ID
ds_id1	mediumint(8)	UNSIGNED	Yes	NULL			Target station 1 ID
ds_id2	mediumint(8)	UNSIGNED	Yes	NULL			Target station 2 ID
dd_ang_time	datetime		Yes	NULL			Measurement time
dd_ang_time_unc	datetime		Yes	NULL			Measurement time uncertainty
dd_ang_hort1	float		Yes	NULL		°	Horizontal angle to target 1
dd_ang_hort2	float		Yes	NULL		°	Horizontal angle to target 2
dd_ang_vert1	float		Yes	NULL		°	Vertical angle to target 1
dd_ang_vert2	float		Yes	NULL		°	Vertical angle to target 2
dd_ang_herr1	float		Yes	NULL		°	Horizontal error on angle 1
dd_ang_herr2	float		Yes	NULL		°	Horizontal error on angle 2
dd_ang_verr1	float		Yes	NULL		°	Vertical error on angle 1
dd_ang_verr2	float		Yes	NULL		°	Vertical error on angle 2

dd_ang_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Collector 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Collector 3 ID
dd_ang_loaddate	datetime		Yes	NULL			Load date
dd_ang_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	dd_ang_id
CODE	INDEX	dd_ang_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	ds_id

Links:

Field	Link to
di_gen_id	di_gen.di_gen_id

ds_id	ds.ds_id
ds_id1	ds.ds_id
ds_id2	ds.ds_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
dd_ang_hort1	$0 \leq x \leq 360$
dd_ang_hort2	$0 \leq x \leq 360$
dd_ang_vert1	$-90 \leq x \leq 90$
dd_ang_vert2	$-90 \leq x \leq 90$
dd_ang_time	$\subset [di_gen_id.di_gen_stime, di_gen_id.di_gen_etime]$
dd_ang_time	$\subset [ds_id.ds_stime, ds_id.ds_etime]$
dd_ang_time	$\subset [ds_id1.ds_stime, ds_id1.ds_etime]$
dd_ang_time	$\subset [ds_id2.ds_stime, ds_id2.ds_etime]$
ds_id	$= di_gen_id.ds_id$
dd_ang_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

dd_edm – EDM

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
dd_edm_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
dd_edm_code	varchar(30)		Yes	NULL			Code
di_gen_id	mediumint(8)	UNSIGNED	Yes	NULL			General deformation instrument ID
ds_id1	mediumint(8)	UNSIGNED	Yes	NULL			Instrument station ID
ds_id2	mediumint(8)	UNSIGNED	Yes	NULL			Target station ID
dd_edm_time	datetime		Yes	NULL			Measurement time
dd_edm_time_unc	datetime		Yes	NULL			Measurement time uncertainty
dd_edm_line	double		Yes	NULL		m	Line length
dd_edm_cerr	float		Yes	NULL		m	Constant error
dd_edm_serr	float		Yes	NULL		ppm	Scale error
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Collector 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Collector 3 ID
dd_edm_loaddate	datetime		Yes	NULL			Load date
dd_edm_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID

cb_ids	varchar(255)		Yes	NULL		List of cb_ids separated by commas
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Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	dd_edm_id
CODE	INDEX	dd_edm_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	ds_id1

Links:

Field	Link to
di_gen_id	di_gen.di_gen_id
ds_id1	ds.ds_id
ds_id2	ds.ds_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
dd_edm_time	$\subset [di_gen_id.di_gen_stime, di_gen_id.di_gen_etime]$
dd_edm_time	$\subset [ds_id1.ds_stime, ds_id1.ds_etime]$
dd_edm_time	$\subset [ds_id2.ds_stime, ds_id2.ds_etime]$
ds_id1	$= di_gen_id.ds_id$
dd_edm_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

dd_gps – GPS

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
dd_gps_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
dd_gps_code	varchar(30)		Yes	NULL			Code
di_gen_id	mediumint(8)	UNSIGNED	Yes	NULL			General deformation instrument ID
ds_id	mediumint(8)	UNSIGNED	Yes	NULL			GPS station ID
ds_id_ref1	mediumint(8)	UNSIGNED	Yes	NULL			Reference station 1 ID
ds_id_ref2	mediumint(8)	UNSIGNED	Yes	NULL			Reference station 2 ID
dd_gps_time	datetime		Yes	NULL			Measurement time
dd_gps_time_unc	datetime		Yes	NULL			Measurement time uncertainty
dd_gps_lat	double		Yes	NULL		°	Latitude
dd_gps_lon	double		Yes	NULL		°	Longitude
dd_gps_elev	double		Yes	NULL		m	Elevation above sea level
dd_gps_nserr	double		Yes	NULL		°	N-S error
dd_gps_ewerr	double		Yes	NULL		°	E-W error
dd_gps_verr	float		Yes	NULL		m	Vertical error
dd_gps_software	varchar(50)		Yes	NULL			Position-determining software
dd_gps_orbits	varchar(255)		Yes	NULL			Orbits used

dd_gps_dur	varchar(255)		Yes	NULL		min	Duration of the solution
dd_gps_qual	enum('E', 'G', 'P', 'U')		Yes	NULL			Quality: E=Excellent, G=Good, P=Poor, U=Unknown
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Collector 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Collector 3 ID
dd_gps_loaddate	datetime		Yes	NULL			Load date
dd_gps_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	dd_gps_id
CODE	INDEX	dd_gps_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	ds_id

Links:

Field	Link to
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di_gen_id	di_gen.di_gen_id
ds_id	ds.ds_id
ds_id_ref1	ds.ds_id
ds_id_ref2	ds.ds_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
dd_gps_time	$\subset [di_gen_id.di_gen_stime, di_gen_id.di_gen_etime]$
dd_gps_time	$\subset [ds_id.ds_stime, ds_id.ds_etime]$
dd_gps_time	$\subset [ds_id_ref1.ds_stime, ds_id_ref1.ds_etime]$
dd_gps_time	$\subset [ds_id_ref2.ds_stime, ds_id_ref2.ds_etime]$
ds_id	$= di_gen_id.ds_id$
dd_gps_lat	$-90 \leq x \leq 90$
dd_gps_lon	$-180 \leq x \leq 180$
dd_gps_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

dd_gpv – GPS vector

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
dd_gpv_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
dd_gpv_code	varchar(30)		Yes	NULL			Code
di_gen_id	mediumint(8)	UNSIGNED	Yes	NULL			General deformation instrument
ds_id	mediumint(8)	UNSIGNED	Yes	NULL			Deformation station ID
dd_gpv_stime	datetime		Yes	NULL			Start time
dd_gpv_stime_unc	datetime		Yes	NULL			Start time uncertainty
dd_gpv_etime	datetime		Yes	NULL			End time
dd_gpv_etime_unc	datetime		Yes	NULL			End time uncertainty
dd_gpv_dmag	float		Yes	NULL		mm	Displacement magnitude
dd_gpv_daz	float		Yes	NULL		°	Displacement azimuth
dd_gpv_vincl	float		Yes	NULL		°	Vector inclination
dd_gpv_N	float		Yes	NULL		mm	North displacement
dd_gpv_E	float		Yes	NULL		mm	East displacement
dd_gpv_vert	float		Yes	NULL		mm	Vertical displacement
dd_gpv_dherr	float		Yes	NULL		mm	Magnitude horizontal uncertainty
dd_gpv_dnerr	float		Yes	NULL		mm	North displacement uncertainty

dd_gpv_deerr	float		Yes	<i>NULL</i>		mm	East displacement uncertainty
dd_gpv_dverr	float		Yes	<i>NULL</i>		mm	Magnitude vertical uncertainty
dd_gpv_com	varchar(255)		Yes	<i>NULL</i>			Comments
cc_id	smallint(5)	UNSIGNED	Yes	<i>NULL</i>			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	<i>NULL</i>			Collector 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	<i>NULL</i>			Collector 3 ID
dd_gpv_loaddate	datetime		Yes	<i>NULL</i>			Load date
dd_gpv_pubdate	datetime		Yes	<i>NULL</i>			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	<i>NULL</i>			Loader ID
cb_ids	varchar(255)		Yes	<i>NULL</i>			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	dd_gpv_id
CODE	INDEX	dd_gpv_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	ds_id

Links:

Field	Link to
di_gen_id	di_gen.di_gen_id
ds_id	ds.ds_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
dd_gpv_stime	$\subset [di_gen_id.di_gen_stime, di_gen_id.di_gen_etime]$
dd_gpv_stime	$\subset [ds_id.ds_stime, ds_id.ds_etime]$
dd_gpv_etime	$\subset [di_gen_id.di_gen_stime, di_gen_id.di_gen_etime]$
dd_gpv_etime	$\subset [ds_id.ds_stime, ds_id.ds_etime]$
dd_gpv_stime	$\leq dd_gpv_etime$
dd_gpv_daz	$0 \leq x \leq 360$
dd_gpv_vincl	$0 \leq x \leq 90$
ds_id	$= di_gen_id.ds_id$
dd_gpv_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

dd_lev – Leveling

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
dd_lev_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
dd_lev_code	varchar(30)		Yes	NULL			Code
di_gen_id	mediumint(8)	UNSIGNED	Yes	NULL			General deformation instrument ID
ds_id_ref	mediumint(8)	UNSIGNED	Yes	NULL			Reference benchmark ID
ds_id1	mediumint(8)	UNSIGNED	Yes	NULL			First benchmark (n) ID
ds_id2	mediumint(8)	UNSIGNED	Yes	NULL			Second benchmark (n+1) ID
dd_lev_ord	mediumint(9)		Yes	NULL			Order
dd_lev_class	varchar(30)		Yes	NULL			Class
dd_lev_time	datetime		Yes	NULL			Survey date
dd_lev_time_unc	datetime		Yes	NULL			Survey date uncertainty
dd_lev_delev	float		Yes	NULL		mm	Elevation change
dd_lev_herr	float		Yes	NULL		mm	Elevation change uncertainty
dd_lev_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Collector 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Collector 3 ID

dd_lev_loaddate	datetime		Yes	NULL			Load date
dd_lev_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	dd_lev_id
CODE	INDEX	dd_lev_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	ds_id_ref

Links:

Field	Link to
di_gen_id	di_gen.di_gen_id
ds_id_ref	ds.ds_id
ds_id1	ds.ds_id
ds_id2	ds.ds_id
cc_id	cc.cc_id

cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
dd_lev_time	$\subset [di_gen_id.di_gen_stime, di_gen_id.di_gen_etime]$
dd_lev_time	$\subset [ds_id_ref.ds_stime, ds_id_ref.ds_etime]$
dd_lev_time	$\subset [ds_id1.ds_stime, ds_id1.ds_etime]$
dd_lev_time	$\subset [ds_id2.ds_stime, ds_id2.ds_etime]$
ds_id_ref	$= di_gen_id.ds_id$
ds_lev_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

dd_sar – InSAR image

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
dd_sar_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
dd_sar_code	varchar(30)		Yes	NULL			Code
vd_id	mediumint(8)	UNSIGNED	Yes	NULL			Volcano ID
di_gen_id	mediumint(8)	UNSIGNED	Yes	NULL			General deformation instrument ID
dd_sar_slat	double		Yes	NULL		°	Starting latitude
dd_sar_slon	double		Yes	NULL		°	Starting longitude
dd_sar_spos	enum('BLC', 'TLC')		Yes	NULL			Starting position: BLC=Bottom Left Corner, TLC=Top Left Corner
dd_sar_rord	varchar(30)		Yes	NULL			Row order
dd_sar_nrows	smallint(5)	UNSIGNED	Yes	NULL			Number of rows
dd_sar_ncols	smallint(5)	UNSIGNED	Yes	NULL			Number of columns
dd_sar_units	varchar(30)		Yes	NULL			Units
dd_sar_ndata	varchar(30)		Yes	NULL			Null data value
dd_sar_loc	varchar(255)		Yes	NULL			Location
dd_sar_pair	enum('P', 'S', 'U')		Yes	NULL			Flag: P=Pair, S=Stacked, U=Unknown
dd_sar_desc	varchar(255)		Yes	NULL			Description

dd_sar_dem	varchar(50)		Yes	NULL			DEM
dd_sar_dord	varchar(30)		Yes	NULL			Data order
dd_sar_img1_time	datetime		Yes	NULL			Date of image 1
dd_sar_img1_time_unc	datetime		Yes	NULL			Date of image 1 uncertainty
dd_sar_img2_time	datetime		Yes	NULL			Date of image 2
dd_sar_img2_time_unc	datetime		Yes	NULL			Date of image 2 uncertainty
dd_sar_pixsiz	float		Yes	NULL		m	Pixel size
dd_sar_spacing	float		Yes	NULL		°	Spacing of rows and columns
dd_sar_lookang	float		Yes	NULL		°	Look angle
dd_sar_limb	enum('ASC', 'DES')		Yes	NULL			Limb: ASC=Ascending, DES=Descending
dd_sar_jpg	varchar(255)		Yes	NULL			JPG of interferogram
dd_sar_geotiff	varchar(255)		Yes	NULL			GEOTIFF of interferogram
dd_sar_prometh	varchar(255)		Yes	NULL			Processing method
dd_sar_softwr	varchar(255)		Yes	NULL			Software
dd_sar_dem_qual	enum('E', 'G', 'F', 'U')		Yes	NULL			DEM quality: E=Excellent, G=Good, F=Fair, U=Unknown
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Collector ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Collector ID
dd_sar_loaddate	datetime		Yes	NULL			Load date
dd_sar_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID

cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas
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Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	dd_sar_id
CODE	INDEX	dd_sar_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
VOLCANO	INDEX	vd_id

Links:

Field	Link to
vd_id	vd.vd_id
di_gen_id	di_gen.di_gen_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
dd_sar_slat	$-90 \leq x \leq 90$
dd_sar_slon	$-180 \leq x \leq 180$
dd_sar_nrows, dd_sar_ncols	$dd_sar_nrows \times dd_sar_ncols = \text{COUNT} (dd_srd \text{ WHERE } dd_srd.dd_sar_id=dd_sar_id)$
dd_sar_img1_time	$< dd_sar_img2_time$
dd_sar_img1_time	$\subset [di_gen_id.di_gen_stime, di_gen_id.di_gen_etime]$
dd_sar_img2_time	$\subset [di_gen_id.di_gen_stime, di_gen_id.di_gen_etime]$
vd_id	$= di_gen_id.ds_id.cn_id.vd_id \text{ OR } jj_volnet.vd_id \text{ WHERE } jj_net_id= di_gen_id.ds_id.cn_id \text{ AND } jj_net_flag=C$
dd_sar_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

dd_srd – InSAR image pixel

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
dd_srd_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
dd_sar_id	mediumint(8)	UNSIGNED	Yes	<i>NULL</i>			InSAR image ID
dd_srd_numb	int(10)	UNSIGNED	Yes	<i>NULL</i>			Number
dd_srd_dchange	float		Yes	<i>NULL</i>		mm	Range of change
dd_srd_loaddate	datetime		Yes	<i>NULL</i>			Load date
cc_id_load	smallint(5)	UNSIGNED	Yes	<i>NULL</i>			Loader ID

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	dd_srd_id
PIXEL NUMBER	UNIQUE	dd_sar_id
		dd_srd_numb

Links:

Field	Link to
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dd_sar_id	dd_sar.dd_sar_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
dd_srd_numb	$\leq dd_sar_id.dd_sar_nrows \times dd_sar_id.dd_sar_ncols$
dd_srd_numb	$\neq dd_srd.dd_srd_numb$ WHERE $dd_srd.dd_sar_id=dd_sar_id$

Special case – InSAR image:

For all InSAR image pixels of the same InSAR image:

- pixel number must be unique and range from 1 to X (where X = number of rows \times number of columns) with no gap

$\Leftrightarrow dd_srd_numb = 1, 2, 3 \dots X$ (where $X = dd_sar_nrows \times dd_sar_ncols$)

- pixel number 1 corresponds to the pixel at the starting position (dd_sar_spos)

pixel number 2 is the next pixel according to row order (dd_sar_rord)

dd_str – Strain

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
dd_str_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
dd_str_code	varchar(30)		Yes	NULL			Code
ds_id	mediumint(8)	UNSIGNED	Yes	NULL			Deformation station ID
di_tlt_id	smallint(5)	UNSIGNED	Yes	NULL			Strainmeter ID
dd_str_time	datetime		Yes	NULL			Measurement time
dd_str_time_unc	datetime		Yes	NULL			Measurement time uncertainty
dd_str_comp1	double		Yes	NULL		μstrain	Component 1
dd_str_comp2	double		Yes	NULL		μstrain	Component 2
dd_str_comp3	double		Yes	NULL		μstrain	Component 3
dd_str_comp4	double		Yes	NULL		μstrain	Component 4
dd_str_err1	double		Yes	NULL		μstrain	Component 1 error
dd_str_err2	double		Yes	NULL		μstrain	Component 2 error
dd_str_err3	double		Yes	NULL		μstrain	Component 3 error
dd_str_err4	double		Yes	NULL		μstrain	Component 4 error
dd_str_vdstr	double		Yes	NULL		μstrain	Volumetric strain change
dd_str_vdstr_err	double		Yes	NULL		μstrain	Volumetric strain change error

dd_str_sstr_ax1	double		Yes	NULL		μstrain	Shear strain of axis 1
dd_str_azi_ax1	float		Yes	NULL		°	Azimuth of axis 1
dd_str_sstr_ax2	double		Yes	NULL		μstrain	Shear strain of axis 2
dd_str_azi_ax2	float		Yes	NULL		°	Azimuth of axis 2
dd_str_sstr_ax3	double		Yes	NULL		μstrain	Shear strain of axis 3
dd_str_azi_ax3	float		Yes	NULL		°	Azimuth of axis 3
dd_str_stderr1	double		Yes	NULL		μstrain	Strain for axis 1 uncertainty
dd_str_stderr2	double		Yes	NULL		μstrain	Strain for axis 2 uncertainty
dd_str_stderr3	double		Yes	NULL		μstrain	Strain for axis 3 uncertainty
dd_str_pmax	double		Yes	NULL		μstrain	Maximum principal strain
dd_str_pmaxerr	double		Yes	NULL		μstrain	Maximum principal strain uncertainty
dd_str_pmin	double		Yes	NULL		μstrain	Minimum principal strain
dd_str_pminerr	double		Yes	NULL		μstrain	Minimum principal strain uncertainty
dd_str_pmax_dir	float		Yes	NULL		°	Maximum principal strain direction
dd_str_pmax_direrr	float		Yes	NULL		°	Maximum principal strain direction uncertainty
dd_str_pmin_dir	float		Yes	NULL		°	Minimum principal strain direction
dd_str_pmin_direrr	float		Yes	NULL		°	Minimum principal strain direction uncertainty
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Collector 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Collector 3 ID
dd_str_loaddate	datetime		Yes	NULL			Load date
dd_str_pubdate	datetime		Yes	NULL			Publish date

cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	dd_str_id
CODE	INDEX	dd_str_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	ds_id

Links:

Field	Link to
ds_id	ds.ds_id
di_tlt_id	di_tlt.di_tlt_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
dd_str_time	$\subset [di_tlt_id.di_tlt_stime, di_tlt_id.di_tlt_etime]$
dd_str_time	$\subset [ds_id.ds_stime, ds_id.ds_etime]$
dd_str_azi_ax1	$0 \leq x \leq 360$
dd_str_azi_ax2	$0 \leq x \leq 360$
dd_str_azi_ax3	$0 \leq x \leq 360$
dd_str_pmax_dir	$0 \leq x \leq 360$
dd_str_pmin_dir	$0 \leq x \leq 360$
dd_str_pmin	$\leq dd_str_pmax$
ds_id	$= di_tlt_id.ds_id$
ds_str_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

dd_tlt – Electronic tilt

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
dd_tlt_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
dd_tlt_code	varchar(30)		Yes	NULL			Code
ds_id	mediumint(8)	UNSIGNED	Yes	NULL			Deformation station ID
di_tlt_id	smallint(5)	UNSIGNED	Yes	NULL			Tiltmeter ID
dd_tlt_time	datetime		Yes	NULL			Measurement time
dd_tlt_timecsec	decimal(2,2)		Yes	NULL			Centisecond precision for measurement time
dd_tlt_time_unc	datetime		Yes	NULL			Measurement time uncertainty
dd_tlt_timecsec_unc	decimal(2,2)		Yes	NULL			Centisecond precision for measurement time uncertainty
dd_tlt_srate	double		Yes	NULL		sec	Sampling rate
dd_tlt1	double		Yes	NULL			Tilt measurement 1
dd_tlt2	double		Yes	NULL			Tilt measurement 2
dd_tlt_err1	double		Yes	NULL			Tilt 1 error
dd_tlt_err2	double		Yes	NULL			Tilt 2 error
dd_tlt_proc_flg	enum('P', 'R')		Yes	NULL			Flag: P=Processed, R=Raw
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Collector 2 ID

cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Collector 3 ID
dd_tlt_loaddate	datetime		Yes	NULL			Load date
dd_tlt_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	dd_tlt_id
CODE	INDEX	dd_tlt_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	ds_id

Links:

Field	Link to
ds_id	ds.ds_id
di_tlt_id	di_tlt.di_tlt_id
cc_id	cc.cc_id
cc_id2	cc.cc_id

cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
dd_tlt_time	$\subset [di_tlt_id.di_tlt_stime, di_tlt_id.di_tlt_etime]$
dd_tlt_time	$\subset [ds_id.ds_stime, ds_id.ds_etime]$
ds_id	$= di_tlt_id.ds_id$
dd_tlt_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

dd_tlv – Tilt vector

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
dd_tlv_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
dd_tlv_code	varchar(30)		Yes	NULL			Code
ds_id	mediumint(8)	UNSIGNED	Yes	NULL			Deformation station ID
di_tlt_id	smallint(5)	UNSIGNED	Yes	NULL			Tiltmeter ID
dd_tlv_stime	datetime		Yes	NULL			Start time
dd_tlv_stime_unc	datetime		Yes	NULL			Start time uncertainty
dd_tlv_etime	datetime		Yes	NULL			End time
dd_tlv_etime_unc	datetime		Yes	NULL			End time uncertainty
dd_tlv_mag	float		Yes	NULL		μrad	Magnitude
dd_tlv_azi	float		Yes	NULL		°	Azimuth
dd_tlv_magerr	float		Yes	NULL		μrad	Magnitude error
dd_tlv_azierr	float		Yes	NULL		°	Azimuth error
dd_tlv_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Collector 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Collector 3 ID

dd_tlv_loaddate	datetime		Yes	<i>NULL</i>			Load date
dd_tlv_pubdate	datetime		Yes	<i>NULL</i>			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	<i>NULL</i>			Loader ID
cb_ids	varchar(255)		Yes	<i>NULL</i>			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	dd_tlv_id
CODE	INDEX	dd_tlv_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	ds_id

Links:

Field	Link to
ds_id	ds.ds_id
di_tlt_id	di_tlt.di_tlt_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id

cc_id_load	cc.cc_id
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Restrictions:

Field	Restriction
dd_tlv_stime	$\subset [di_tlt_id.di_tlt_stime, di_tlt_id.di_tlt_etime]$
dd_tlv_stime	$\subset [ds_id.ds_stime, ds_id.ds_etime]$
dd_tlv_etime	$\subset [di_tlt_id.di_tlt_stime, di_tlt_id.di_tlt_etime]$
dd_tlv_etime	$\subset [ds_id.ds_stime, ds_id.ds_etime]$
dd_tlv_stime	$\leq dd_tlv_etime$
dd_tlv_azi	$0 \leq x \leq 360$
ds_id	$= di_tlt_id.ds_id$
dd_tlv_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

di_gen – General deformation instrument

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
di_gen_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
di_gen_code	varchar(30)		Yes	NULL			Code
ds_id	mediumint(8)	UNSIGNED	Yes	NULL			Deformation station ID
di_gen_name	varchar(255)		Yes	NULL			Name
di_gen_type	varchar(50)		Yes	NULL			Type
di_gen_units	varchar(30)		Yes	NULL			Measured units
di_gen_res	float		Yes	NULL			Resolution
di_gen_stn	float		Yes	NULL			Signal to noise
di_gen_stime	datetime		No	0000-00-00 00:00:00			Start time
di_gen_stime_unc	datetime		Yes	NULL			Start time uncertainty
di_gen_etime	datetime		No	9999-12-31 23:59:59			End time
di_gen_etime_unc	datetime		Yes	NULL			End time uncertainty
di_gen_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Owner 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Owner 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Owner 3 ID

di_gen_loaddate	datetime		Yes	NULL			Load date
di_gen_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	di_gen_id
CODE	INDEX	di_gen_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	ds_id

Links:

Field	Link to
ds_id	ds.ds_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
di_gen_stime	$\subset [ds_id.ds_stime, ds_id.ds_etime]$
di_gen_etime	$\subset [ds_id.ds_stime, ds_id.ds_etime]$
di_gen_stime	$\leq di_gen_etime$
di_gen_code AND (cc_id OR cc_id2 OR cc_id3) AND [di_gen_stime, di_gen_etime]	UNIQUE

di_tlt – Tilt/Strain instrument

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
di_tlt_id	smallint(5)	UNSIGNED	No		auto_increment		ID
di_tlt_code	varchar(30)		Yes	NULL			Code
ds_id	mediumint(8)	UNSIGNED	Yes	NULL			Deformation station ID
di_tlt_name	varchar(255)		Yes	NULL			Name
di_tlt_type	varchar(50)		Yes	NULL			Type
di_tlt_depth	float		Yes	NULL		m	Depth
di_tlt_units	varchar(30)		Yes	NULL			Measured units
di_tlt_res	float		Yes	NULL			Resolution
di_tlt_dir1	float		Yes	NULL		°	Azimuth of direction 1
di_tlt_dir2	float		Yes	NULL		°	Azimuth of direction 2
di_tlt_dir3	float		Yes	NULL		°	Azimuth of direction 3
di_tlt_dir4	float		Yes	NULL		°	Azimuth of direction 4
di_tlt_econv1	float		Yes	NULL		μrad/mV or μstrain/mV	Electronic conversion for component 1
di_tlt_econv2	float		Yes	NULL		μrad/mV or μstrain/mV	Electronic conversion for component 2
di_tlt_econv3	float		Yes	NULL		μrad/mV or	Electronic conversion for

						μstrain/mV	component 3
di_tlt_econv4	float		Yes	NULL		μrad/mV or μstrain/mV	Electronic conversion for component 4
di_tlt_stime	datetime		No	0000-00-00 00:00:00			Start time
di_tlt_stime_unc	datetime		Yes	NULL			Start time uncertainty
di_tlt_etime	datetime		No	9999-12-31 23:59:59			End time
di_tlt_etime_unc	datetime		Yes	NULL			End time uncertainty
di_tlt_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Owner 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Owner 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Owner 3 ID
di_tlt_loaddate	datetime		Yes	NULL			Load date
di_tlt_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	di_tlt_id
CODE	INDEX	di_tlt_code
OWNER 1	INDEX	cc_id

OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	ds_id

Links:

Field	Link to
ds_id	ds.ds_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
di_tlt_dir1	$0 \leq x \leq 360$
di_tlt_dir2	$0 \leq x \leq 360$
di_tlt_dir3	$0 \leq x \leq 360$
di_tlt_dir4	$0 \leq x \leq 360$
di_tlt_stime	$\subset [ds_id.ds_stime, ds_id.ds_etime]$
di_tlt_etime	$\subset [ds_id.ds_stime, ds_id.ds_etime]$
di_tlt_stime	$\leq di_tlt_etime$

di_tlt_code AND (cc_id OR cc_id2 OR cc_id3) AND [di_tlt_stime, di_tlt_etime]	UNIQUE
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ds – Deformation station

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
ds_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
ds_code	varchar(30)		Yes	NULL			Code
ds_name	varchar(30)		Yes	NULL			Name
cn_id	smallint(5)	UNSIGNED	Yes	NULL			Deformation network ID
ds_perm	varchar(255)		Yes	NULL			List of permanent instruments
ds_nlat	double		Yes	NULL		°	Nominal latitude
ds_nlon	double		Yes	NULL		°	Nominal longitude
ds_nelev	float		Yes	NULL		m	Nominal elevation
ds_herr_loc	float		Yes	NULL			Horizontal precision of nominal location
ds_stime	datetime		No	0000-00-00 00:00:00			Start date
ds_stime_unc	datetime		Yes	NULL			Start date uncertainty
ds_etime	datetime		No	9999-12-31 23:59:59			End date
ds_etime_unc	datetime		Yes	NULL			End date uncertainty
ds_utc	float		Yes	NULL			Difference from UTC
ds_rflag	enum('Y', 'N')		Yes	NULL			Reference station: Y=Yes, N=No
ds_desc	varchar(255)		Yes	NULL			Description

cc_id	smallint(5)	UNSIGNED	Yes	NULL			Owner 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Owner 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Owner 3 ID
ds_loaddate	datetime		Yes	NULL			Load date
ds_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	ds_id
CODE	INDEX	ds_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
NETWORK	INDEX	cn_id

Links:

Field	Link to
cn_id	cn.cn_id
cc_id	cc.cc_id

cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
ds_stime	$\subset [cn_id.cn_stime, cn_id.cn_etime]$
ds_etime	$\subset [cn_id.cn_stime, cn_id.cn_etime]$
ds_stime	$\leq ds_etime$
ds_code AND (cc_id OR cc_id2 OR cc_id3) AND [ds_stime, ds_etime]	UNIQUE

ed – Eruption

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
ed_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
ed_code	varchar(30)		Yes	NULL			Code
vd_id	mediumint(8)	UNSIGNED	Yes	NULL			Volcano ID
ed_name	varchar(60)		Yes	NULL			Name
ed_nar	varchar(255)		Yes	NULL			Narrative
ed_stime	datetime		Yes	NULL			Start time
ed_stime_bc	smallint(6)		Yes	NULL			Year of start time before Christ
ed_stime_unc	datetime		Yes	NULL			Start time uncertainty
ed_etime	datetime		Yes	NULL			End time
ed_etime_bc	smallint(6)		Yes	NULL			Year of end time before Christ
ed_etime_unc	datetime		Yes	NULL			End time uncertainty
ed_climax	datetime		Yes	NULL			Onset of climax
ed_climax_bc	smallint(6)		Yes	NULL			Year of climax time before Christ
ed_climax_unc	datetime		Yes	NULL			Onset of climax uncertainty
ed_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Contact 1 ID

cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Contact 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Contact 3 ID
ed_loaddate	datetime		Yes	NULL			Load date
ed_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	ed_id
CODE	INDEX	ed_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
VOLCANO	INDEX	vd_id

Links:

Field	Link to
vd_id	vd.vd_id
cc_id	cc.cc_id
cc_id2	cc.cc_id

cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
ed_stime	$\leq ed_climax$
ed_climax	$\leq ed_etime$
ed_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

ed_for – Eruption forecast

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
ed_for_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
ed_for_code	varchar(30)		Yes	NULL			Code
vd_id	mediumint(8)	UNSIGNED	Yes	NULL			Volcano ID
ed_phs_id	mediumint(8)	UNSIGNED	Yes	NULL			Eruption phase ID
ed_for_desc	varchar(255)		Yes	NULL			Description
ed_for_open	datetime		Yes	NULL			Earliest expected start time of eruption
ed_for_open_unc	datetime		Yes	NULL			Earliest expected start time of eruption uncertainty
ed_for_close	datetime		Yes	NULL			Latest expected start time of eruption
ed_for_close_unc	datetime		Yes	NULL			Latest expected start time of eruption uncertainty
ed_for_time	datetime		Yes	NULL			Issue date
ed_for_time_unc	datetime		Yes	NULL			Issue date uncertainty
ed_for_tsucc	enum('Y', 'N', 'P')		Yes	NULL			Success on time: Y=Yes, N=No, P=Partly
ed_for_msucc	enum('Y', 'N', 'P')		Yes	NULL			Success on magnitude: Y=Yes, N=No, P=Partly
ed_for_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Contact 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Contact 2 ID

cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Contact 3 ID
ed_for_loaddate	datetime		Yes	NULL			Load date
ed_for_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	ed_for_id
CODE	INDEX	ed_for_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
VOLCANO	INDEX	vd_id
ERUPTION PHASE	INDEX	ed_phs_id

Links:

Field	Link to
vd_id	vd.vd_id
ed_phs_id	ed_phs.ed_phs_id
cc_id	cc.cc_id

cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
ed_for_time	$\leq ed_for_open$
ed_for_open	$\leq ed_for_close$
ed_for_time	$\leq ed_phs_id.ed_phs_stime$
vd_id	$= ed_phs_id.ed_id.vd_id$
ed_for_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

ed_phs – Eruption phase

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
ed_phs_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
ed_phs_code	varchar(30)		Yes	NULL			Code
ed_id	mediumint(8)	UNSIGNED	Yes	NULL			Eruption ID
ed_phs_phsnum	float		Yes	NULL			Phase number
ed_phs_stime	datetime		Yes	NULL			Start time
ed_phs_stime_bc	smallint(6)		Yes	NULL			Year of start time before Christ
ed_phs_stime_unc	datetime		Yes	NULL			Start time uncertainty
ed_phs_etime	datetime		Yes	NULL			End time
ed_phs_etime_bc	smallint(6)		Yes	NULL			Year of end time before Christ
ed_phs_etime_unc	datetime		Yes	NULL			End time uncertainty
ed_phs_desc	varchar(255)		Yes	NULL			Description
ed_phs_vei	mediumint(9)		Yes	NULL			VEI (Volcanic Explosivity Index)
ed_phs_max_lex	float		Yes	NULL		m ³ /s	Maximum lava extrusion rate
ed_phs_max_expdis	float		Yes	NULL		kg/s × 10 ⁶	Maximum explosive mass discharge rate
ed_phs_dre	float		Yes	NULL		m ³ × 10 ⁶	DRE (Dense-Rock Equivalent)

ed_phs_mix	enum('Y', 'N', 'U')		Yes	NULL			Evidence of magma mixing: Y=Yes, N=No, U=Unknown
ed_phs_col	float		Yes	NULL		km	Column height
ed_phs_coldet	varchar(255)		Yes	NULL			Column height determination
ed_phs_minsio2_mg	float		Yes	NULL		%	Minimum SiO ₂ of matrix glass
ed_phs_maxsio2_mg	float		Yes	NULL		%	Maximum SiO ₂ of matrix glass
ed_phs_minsio2_wr	float		Yes	NULL		%	Minimum SiO ₂ of whole rock
ed_phs_maxsio2_wr	float		Yes	NULL		%	Maximum SiO ₂ of whole rock
ed_phs_totxtl	float		Yes	NULL		%	Total crystallinity
ed_phs_phenc	float		Yes	NULL		%	Phenocryst content
ed_phs_phena	varchar(255)		Yes	NULL			Phenocryst assemblage
ed_phs_h2o	float		Yes	NULL			Pre-eruption water content
ed_phs_h2o_xtl	varchar(255)		Yes	NULL			Description of phenocryst and melt inclusion
ed_phs_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Contact 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Contact 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Contact 3 ID
ed_phs_loaddate	datetime		Yes	NULL			Load date
ed_phs_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	ed_phs_id
CODE	UNIQUE	ed_phs_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
ERUPTION	INDEX	ed_id

Links:

Field	Link to
ed_id	ed.ed_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
ed_phs_stime	$\leq ed_phs_etime$
ed_phs_stime	$\subset [ed_id.ed_stime, ed_id.ed_etime]$
ed_phs_etime	$\subset [ed_id.ed_stime, ed_id.ed_etime]$

ed_phs_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE
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ed_vid – Eruption video

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
ed_vid_id	smallint(5)	UNSIGNED	No		auto_increment		ID
ed_vid_code	varchar(30)		Yes	NULL			Code
vd_id	mediumint(8)	UNSIGNED	Yes	NULL			Volcano ID
ed_id	mediumint(8)	UNSIGNED	Yes	NULL			Eruption ID
ed_phs_id	mediumint(8)	UNSIGNED	Yes	NULL			Eruption phase ID
ed_vid_link	varchar(255)		Yes	NULL			Link
ed_vid_stime	datetime		Yes	NULL			Start time
ed_vid_stime_unc	datetime		Yes	NULL			Start time uncertainty
ed_vid_length	time		Yes	NULL			Length
ed_vid_desc	varchar(255)		Yes	NULL			Description
ed_vid_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Contact 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Contact 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Contact 3 ID
ed_vid_loaddate	datetime		Yes	NULL			Load date
ed_vid_pubdate	datetime		Yes	NULL			Publish date

cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	ed_vid_id
CODE	UNIQUE	ed_vid_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
VOLCANO	INDEX	vd_id
ERUPTION	INDEX	ed_id
ERUPTION PHASE	INDEX	ed_phs_id

Links:

Field	Link to
vd_id	vd.vd_id
ed_id	ed.ed_id
ed_phs_id	ed_phs.ed_phs_id
cc_id	cc.cc_id
cc_id2	cc.cc_id

cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
ed_id	= <i>ed_phs_id</i> .ed_id
vd_id	= <i>ed_phs_id</i> .ed_id.vd_id
ed_vid_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

fd_ele – Electric fields

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
fd_ele_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
fd_ele_code	varchar(30)		Yes	NULL			Code
fs_id1	mediumint(8)	UNSIGNED	Yes	NULL			ID of fields station from which the electrode is subtracted
fs_id2	mediumint(8)	UNSIGNED	Yes	NULL			ID of fields station for the electrode that's being subtracted
fi_id	mediumint(8)	UNSIGNED	Yes	NULL			Fields instrument ID
fd_ele_time	datetime		Yes	NULL			Measurement time
fd_ele_time_unc	datetime		Yes	NULL			Measurement time uncertainty
fd_ele_field	float		Yes	NULL		mV	Field
fd_ele_ferr	float		Yes	NULL		mV	Field uncertainty
fd_ele_dir	float		Yes	NULL		°	Direction
fd_ele_hpass	float		Yes	NULL		Hz	High pass filter frequency
fd_ele_lpass	float		Yes	NULL		Hz	Low pass filter frequency
fd_ele_spot	float		Yes	NULL		mV	Self potential
fd_ele_spot_err	float		Yes	NULL		mV	Self potential uncertainty
fd_ele_ares	float		Yes	NULL		Ω m	Apparent resistivity
fd_ele_ares_err	float		Yes	NULL		Ω m	Apparent resistivity uncertainty

fd_ele_dres	float		Yes	NULL		Ω m	Direct resistivity
fd_ele_dres_err	float		Yes	NULL		Ω m	Direct resistivity uncertainty
fd_ele_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Collector 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Collector 3 ID
fd_ele_loaddate	datetime		Yes	NULL			Load date
fd_ele_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	fd_ele_id
CODE	INDEX	fd_ele_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION 1	INDEX	fs_id1

Links:

Field	Link to
fs_id1	fs.fs_id
fs_id2	fs.fs_id
fi_id	fi.fi_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
fd_ele_time	$\subset [fs_id1.fs_stime, fs_id1.fs_etime]$
fd_ele_time	$\subset [fs_id2.fs_stime, fs_id2.fs_etime]$
fd_ele_time	$\subset [fi_id.fi_stime, fi_id.fi_etime]$
fd_ele_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

fd_gra – Gravity

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
fd_gra_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
fd_gra_code	varchar(30)		Yes	NULL			Code
fs_id	mediumint(8)	UNSIGNED	Yes	NULL			Fields station ID
fs_id_ref	mediumint(8)	UNSIGNED	Yes	NULL			Reference station ID
fi_id	mediumint(8)	UNSIGNED	Yes	NULL			Fields instrument ID
fd_gra_time	datetime		Yes	NULL			Measurement time
fd_gra_time_unc	datetime		Yes	NULL			Measurement time uncertainty
fd_gra_fstr	double		Yes	NULL		Gal	Strength
fd_gra_ferr	double		Yes	NULL		Gal	Strength uncertainty
fd_gra_vdisp	varchar(255)		Yes	NULL			Associated vertical displacement: Y=Yes, N=No, U=Unknown
fd_gra_gwater	varchar(255)		Yes	NULL			Associated change in groundwater level: Y=Yes, N=No, U=Unknown
fd_gra_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Collector 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Collector 3 ID

fd_gra_loaddate	datetime		Yes	NULL			Load date
fd_gra_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	fd_gra_id
CODE	INDEX	fd_gra_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	fs_id

Links:

Field	Link to
fs_id	fs.fs_id
fs_id_ref	fs.fs_id
fi_id	fi.fi_id
cc_id	cc.cc_id
cc_id2	cc.cc_id

cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
fd_gra_time	$\subset [fs_id.fs_stime, fs_id.fs_etime]$
fd_gra_time	$\subset [fs_id_ref.fs_stime, fs_id_ref.fs_etime]$
fd_gra_time	$\subset [fi_id.fi_stime, fi_id.fi_etime]$
fs_id	$= fi_id.fs_id$
fd_gra_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

fd_mag – Magnetic fields

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
fd_mag_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
fd_mag_code	varchar(30)		Yes	NULL			Code
fs_id	mediumint(8)	UNSIGNED	Yes	NULL			Fields station ID
fs_id_ref	mediumint(8)	UNSIGNED	Yes	NULL			Reference station ID
fi_id	mediumint(8)	UNSIGNED	Yes	NULL			Fields instrument ID
fd_mag_time	datetime		Yes	NULL			Measurement time
fd_mag_time_unc	datetime		Yes	NULL			Measurement time uncertainty
fd_mag_f	double		Yes	NULL		nT	F
fd_mag_compx	double		Yes	NULL		nT	X
fd_mag_compy	double		Yes	NULL		nT	Y
fd_mag_compz	double		Yes	NULL		nT	Z
fd_mag_ferr	float		Yes	NULL		nT	Total field strength uncertainty
fd_mag_errx	float		Yes	NULL		nT	Component X uncertainty
fd_mag_erry	float		Yes	NULL		nT	Component Y uncertainty
fd_mag_errz	float		Yes	NULL		nT	Component Z uncertainty
fd_mag_highpass	float		Yes	NULL		Hz	High pass

fd_mag_lowpass	float		Yes	<i>NULL</i>		Hz	Low pass
fd_mag_com	varchar(255)		Yes	<i>NULL</i>			Comments
cc_id	smallint(5)	UNSIGNED	Yes	<i>NULL</i>			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	<i>NULL</i>			Collector 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	<i>NULL</i>			Collector 3 ID
fd_mag_loaddate	datetime		Yes	<i>NULL</i>			Load date
fd_mag_pubdate	datetime		Yes	<i>NULL</i>			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	<i>NULL</i>			Loader ID
cb_ids	varchar(255)		Yes	<i>NULL</i>			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	fd_mag_id
CODE	INDEX	fd_mag_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	fs_id

Links:

Field	Link to
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fs_id	fs.fs_id
fs_id_ref	fs.fs_id
fi_id	fi.fi_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
fd_mag_time	$\subset [fs_id.fs_stime, fs_id.fs_etime]$
fd_mag_time	$\subset [fs_id_ref.fs_stime, fs_id_ref.fs_etime]$
fd_mag_time	$\subset [fi_id.fi_stime, fi_id.fi_etime]$
fs_id	$= fi_id.fs_id$
fd_mag_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

fd_mgv – Magnetic vector

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
fd_mgv_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
fd_mgv_code	varchar(30)		Yes	<i>NULL</i>			Code
fs_id	mediumint(8)	UNSIGNED	Yes	<i>NULL</i>			Fields station ID
fi_id	mediumint(8)	UNSIGNED	Yes	<i>NULL</i>			Fields instrument ID
fd_mgv_time	datetime		Yes	<i>NULL</i>			Measurement time
fd_mgv_time_unc	datetime		Yes	<i>NULL</i>			Measurement time uncertainty
fd_mgv_dec	float		Yes	<i>NULL</i>		°	Declination
fd_mgv_incl	float		Yes	<i>NULL</i>		°	Inclination
fd_mgv_com	varchar(255)		Yes	<i>NULL</i>			Comments
cc_id	smallint(5)	UNSIGNED	Yes	<i>NULL</i>			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	<i>NULL</i>			Collector 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	<i>NULL</i>			Collector 3 ID
fd_mgv_loaddate	datetime		Yes	<i>NULL</i>			Load date
fd_mgv_pubdate	datetime		Yes	<i>NULL</i>			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	<i>NULL</i>			Loader ID
cb_ids	varchar(255)		Yes	<i>NULL</i>			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	fd_mgv_id
CODE	INDEX	fd_mgv_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	fs_id

Links:

Field	Link to
fs_id	fs.fs_id
fi_id	fi.fi_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
fd_mgv_dec	$0 \leq x \leq 360$

fd_mgv_incl	$0 \leq x \leq 90$
fd_mgv_time	$\subset [fs_id.fs_stime, fs_id.fs_etime]$
fd_mgv_time	$\subset [fi_id.fi_stime, fi_id.fi_etime]$
fs_id	$= fi_id.fs_id$
fd_mgv_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

fi – Fields instrument

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
fi_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
fi_code	varchar(30)		Yes	NULL			Code
fs_id	mediumint(8)	UNSIGNED	Yes	NULL			Fields station ID
fi_name	varchar(255)		Yes	NULL			Name
fi_type	varchar(255)		Yes	NULL			Type
fi_res	float		Yes	NULL			Resolution
fi_units	varchar(255)		Yes	NULL			Measured units
fi_rate	float		Yes	NULL			Sampling rate
fi_filter	varchar(255)		Yes	NULL			Filter type
fi_orient	varchar(255)		Yes	NULL			Orientation
fi_calc	varchar(255)		Yes	NULL			Calculation
fi_stime	datetime		No	0000-00-00 00:00:00			Start date
fi_stime_unc	datetime		Yes	NULL			Start date uncertainty
fi_etime	datetime		No	9999-12-31 23:59:59			End date
fi_etime_unc	datetime		Yes	NULL			End date uncertainty
fi_com	varchar(255)		Yes	NULL			Comments

cc_id	smallint(5)	UNSIGNED	Yes	NULL			Owner 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Owner 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Owner 3 ID
fi_loaddate	datetime		Yes	NULL			Load date
fi_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	fi_id
CODE	INDEX	fi_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	fs_id

Links:

Field	Link to
fs_id	fs.fs_id
cc_id	cc.cc_id

cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
fi_stime	$\leq fi_etime$
fi_stime	$\subset [fs_id.fs_stime, fs_id.fs_etime]$
fi_etime	$\subset [fs_id.fs_stime, fs_id.fs_etime]$
fi_code AND (cc_id OR cc_id2 OR cc_id3) AND [fi_stime, fi_etime]	UNIQUE

fs – Fields station

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
fs_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
fs_code	varchar(50)		Yes	NULL			Code
cn_id	smallint(5)	UNSIGNED	Yes	NULL			Fields network ID
fs_name	varchar(50)		Yes	NULL			Name
fs_lat	double		Yes	NULL		°	Latitude
fs_lon	double		Yes	NULL		°	Longitude
fs_elev	float		Yes	NULL		m	Elevation
fs_inst	varchar(255)		Yes	NULL			Instruments list
fs_utc	float		Yes	NULL			Difference from UTC
fs_stime	datetime		No	0000-00-00 00:00:00			Start date
fs_stime_unc	datetime		Yes	NULL			Start date uncertainty
fs_etime	datetime		No	9999-12-31 23:59:59			End date
fs_etime_unc	datetime		Yes	NULL			End date uncertainty
fs_desc	varchar(255)		Yes	NULL			Description
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Owner 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Owner 2 ID

cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Owner 3 ID
fs_loaddate	datetime		Yes	NULL			Load date
fs_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	fs_id
CODE	INDEX	fs_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
NETWORK	INDEX	cn_id

Links:

Field	Link to
cn_id	cn.cn_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id

cc_id_load	cc.cc_id
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Restrictions:

Field	Restriction
fs_stime	$\leq fs_etime$
fs_stime	$\subset [cn_id.cn_stime, cn_id.cn_etime]$
fs_etime	$\subset [cn_id.cn_stime, cn_id.cn_etime]$
fs_code AND (cc_id OR cc_id2 OR cc_id3) AND [fs_stime, fs_etime]	UNIQUE

gd – Directly sampled gas

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
gd_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
gd_code	varchar(30)		Yes	NULL			Code
gs_id	smallint(5)	UNSIGNED	Yes	NULL			Gas station ID
gi_id	smallint(5)	UNSIGNED	Yes	NULL			Gas instrument ID
gd_time	datetime		Yes	NULL			Sampling/measurement time
gd_time_unc	datetime		Yes	NULL			Sampling/measurement time uncertainty
gd_gtemp	float		Yes	NULL		°C	Gas temperature
gd_bp	float		Yes	NULL		mbar	Barometric pressure
gd_flow	float		Yes	NULL			Gas emission rate
gd_species	enum('CO2', 'SO2', 'H2S', 'HCl', 'HF', 'CH4', 'H2', 'CO', '3He4He', 'd13C', 'd34S', 'd18O', 'dD')		Yes	NULL			Species or ratio of gas reported
gd_waterfree_flag	enum('Y', 'N')		Yes	NULL			Water free gas: Y=Yes, N=No
gd_units	varchar(30)		Yes	NULL			Reported units
gd_concentration	float		Yes	NULL			Gas concentration
gd_concentration_err	float		Yes	NULL			Gas concentration uncertainty

gd_recalc	enum('O', 'R')		Yes	NULL			Recalculated value: O=Original, R=Recalculated
gd_envir	varchar(255)		Yes	NULL			Environmental factors
gd_submin	varchar(255)		Yes	NULL			Sublimate minerals
gd_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Collector 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Collector 3 ID
gd_loaddate	datetime		Yes	NULL			Load date
gd_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	gd_id
CODE	INDEX	gd_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	gs_id

Links:

Field	Link to
gs_id	gs.gs_id
gi_id	gi.gi_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
gd_time	$\subset [gs_id.gs_stime, gs_id.gs_etime]$
gd_time	$\subset [gi_id.gi_stime, gi_id.gi_etime]$
gs_id	$= gi_id.gs_id$
gd_code AND (cc_id OR cc_id2 OR cc_id3) AND gd_species AND gd_waterfree_flag	UNIQUE

gd_plu – Plume

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
gd_plu_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
gd_plu_code	varchar(30)		Yes	NULL			Code
vd_id	mediumint(8)	UNSIGNED	Yes	NULL			Volcano ID
gs_id	smallint(5)	UNSIGNED	Yes	NULL			Gas station ID
gi_id	smallint(5)	UNSIGNED	Yes	NULL			Gas instrument ID
gd_plu_lat	double		Yes	NULL			Latitude
gd_plu_lon	double		Yes	NULL			Longitude
gd_plu_height	float		Yes	NULL		km	Height
gd_plu_hdet	varchar(255)		Yes	NULL			Height determination
gd_plu_time	datetime		Yes	NULL			Measurement time
gd_plu_time_unc	datetime		Yes	NULL			Measurement time uncertainty
gd_plu_species	enum('CO2', 'SO2', 'H2S', 'HCl', 'HF', 'CO')		Yes	NULL			Species of gas reported
gd_plu_units	varchar(30)		Yes	NULL			Reported units
gd_plu_emit	float		Yes	NULL			Emission rate
gd_plu_emit_err	float		Yes	NULL			Emission rate uncertainty

gd_plu_recalc	enum('O', 'R')		Yes	NULL			Recalculated value: O=Original, R=Recalculated
gd_plu_wind	float		Yes	NULL		m/s	Wind speed
gd_plu_weth	varchar(255)		Yes	NULL			Weather notes
gd_plu_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Collector 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Collector 3 ID
gd_plu_loaddate	datetime		Yes	NULL			Load date
gd_plu_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	gd_plu_id
CODE	INDEX	gd_plu_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
VOLCANO	INDEX	vd_id
STATION	INDEX	gs_id

Links:

Field	Link to
vd_id	vd.vd_id
gs_id	gs.gs_id
gi_id	gi.gi_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
gd_plu_time	$\subset [gs_id.gs_stime, gs_id.gs_etime]$
gd_plu_time	$\subset [gi_id.gi_stime, gi_id.gi_etime]$
gs_id	$= gi_id.gs_id$
vd_id	$= gs_id.cn_id.vd_id$ OR $jj_volnet.vd_id$ WHERE $jj_volnet.jj_net_id=gs_id.cn_id$ AND $jj_volnet.jj_net_flag=C$
gd_plu_code AND (cc_id OR cc_id2 OR cc_id3) AND gd_plu_species	UNIQUE

gd_sol – Soil efflux

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
gd_sol_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
gd_sol_code	varchar(30)		Yes	NULL			Code
gs_id	smallint(5)	UNSIGNED	Yes	NULL			Gas station ID
gi_id	smallint(5)	UNSIGNED	Yes	NULL			Gas instrument ID
gd_sol_time	datetime		Yes	NULL			Measurement time
gd_sol_time_unc	datetime		Yes	NULL			Measurement time uncertainty
gd_sol_species	varchar(30)		Yes	NULL			Measured species
gd_sol_tflux	float		Yes	NULL		t/d	Total flux
gd_sol_flux_err	float		Yes	NULL		t/d	Total flux uncertainty
gd_sol_pts	smallint(5)	UNSIGNED	Yes	NULL			Number of points
gd_sol_area	float		Yes	NULL		m ²	Area
gd_sol_high	float		Yes	NULL		g/m ² /d	Highest individual flux
gd_sol_htemp	float		Yes	NULL		°C	Highest temperature
gd_sol_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Collector 2 ID

cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Collector 3 ID
gd_sol_loaddate	datetime		Yes	NULL			Load date
gd_sol_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	gd_sol_id
CODE	INDEX	gd_sol_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	gs_id

Links:

Field	Link to
gs_id	gs.gs_id
gi_id	gi.gi_id
cc_id	cc.cc_id
cc_id2	cc.cc_id

cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
gd_sol_time	$\subset [gs_id.gs_stime, gs_id.gs_etime]$
gd_sol_time	$\subset [gi_id.gi_stime, gi_id.gi_etime]$
gs_id	$= gi_id.gs_id$
gd_sol_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

gi – Gas instrument

Description:

Field	Type	Attribute	Null	Default	Extra	Unit	Comments
gi_id	smallint(5)	UNSIGNED	No		auto_increment		ID
gi_code	varchar(30)		Yes	NULL			Code
cs_id	smallint(5)	UNSIGNED	Yes	NULL			Satellite ID
gs_id	smallint(5)	UNSIGNED	Yes	NULL			Gas station ID
gi_type	varchar(255)		Yes	NULL			Type
gi_name	varchar(255)		Yes	NULL			Name
gi_units	varchar(50)		Yes	NULL			Measured units
gi_pres	float		Yes	NULL			Resolution
gi_stn	float		Yes	NULL			Signal to noise
gi_calib	varchar(255)		Yes	NULL			Calibration
gi_stime	datetime		No	0000-00-00 00:00:00			Start date
gi_stime_unc	datetime		Yes	NULL			Start date uncertainty
gi_etime	datetime		No	9999-12-31 23:59:59			End date
gi_etime_unc	datetime		Yes	NULL			End date uncertainty
gi_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Owner 1 ID

cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Owner 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Owner 3 ID
gi_loaddate	datetime		Yes	NULL			Load date
gi_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	gi_id
CODE	INDEX	gi_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	gs_id
SATELLITE	INDEX	cs_id

Links:

Field	Link to
gs_id	gs.gs_id
cs_id	cs.cs_id

cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
gi_stime	$\leq gi_etime$
gi_stime	$\subset [gs_id.gs_stime, gs_id.gs_etime]$
gi_etime	$\subset [gs_id.gs_stime, gs_id.gs_etime]$
gi_stime	$\subset [cs_id.cs_stime, cs_id.cs_etime]$
gi_etime	$\subset [cs_id.cs_stime, cs_id.cs_etime]$
gi_code AND (cc_id OR cc_id2 OR cc_id3) AND [gi_stime, gi_etime]	UNIQUE

gs – Gas station

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
gs_id	smallint(5)	UNSIGNED	No		auto_increment		ID
gs_code	varchar(30)		Yes	NULL			Code
gs_name	varchar(50)		Yes	NULL			Name
cn_id	smallint(5)	UNSIGNED	Yes	NULL			Gas network ID
gs_lat	double		Yes	NULL		°	Latitude
gs_lon	double		Yes	NULL		°	Longitude
gs_elev	float		Yes	NULL		m	Elevation
gs_inst	varchar(255)		Yes	NULL			Permanent instruments list
gs_type	varchar(255)		Yes	NULL			Type of gas body
gs_utc	float		Yes	NULL			Difference from UTC
gs_stime	datetime		No	0000-00-00 00:00:00			Start date
gs_stime_unc	datetime		Yes	NULL			Start date uncertainty
gs_etime	datetime		No	9999-12-31 23:59:59			End date
gs_etime_unc	datetime		Yes	NULL			End date uncertainty
gs_desc	varchar(255)		Yes	NULL			Description
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Owner 1 ID

cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Owner 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Owner 3 ID
gd_loaddate	datetime		Yes	NULL			Load date
gd_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	gs_id
CODE	INDEX	gs_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
NETWORK	INDEX	cn_id

Links:

Field	Link to
cn_id	cn.cn_id
cc_id	cc.cc_id
cc_id2	cc.cc_id

cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
gs_stime	$\leq gs_etime$
gs_stime	$\subset [cn_id.cn_stime, cn_id.cn_etime]$
gs_etime	$\subset [cn_id.cn_stime, cn_id.cn_etime]$
gs_code AND (cc_id OR cc_id2 OR cc_id3) AND [gs_stime, gs_etime]	UNIQUE

hd – Hydrologic data

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
hd_id	mediumint(8)	UNSIGNED	No		auto_increment		Hydrologic sample data ID
hd_code	varchar(30)		Yes	NULL			ID given by collector
hs_id	smallint(5)	UNSIGNED	Yes	NULL			Hydrologic station ID
hi_id	smallint(5)	UNSIGNED	Yes	NULL			Hydrologic instrument ID
hd_time	datetime		Yes	NULL			Measurement time
hd_time_unc	datetime		Yes	NULL			Measurement time uncertainty
hd_temp	float		Yes	NULL		°C	Water temperature
hd_welev	double		Yes	NULL		m	Water elevation
hd_wdepth	double		Yes	NULL		m	Water depth
hd_dwlev	double		Yes	NULL		m	Change in water level
hd_bp	float		Yes	NULL		mbar	Barometric pressure
hd_sdisc	double		Yes	NULL		L/S	Spring discharge rate
hd_prec	float		Yes	NULL		mm	Precipitation
hd_dprec	float		Yes	NULL		mm	Precipitation of preceding day
hd_tprec	enum('R', 'FR', 'S', 'H', 'R-FR', 'R-S',		Yes	NULL			Type of precipitation: R=Rain,

	'R-H', 'FR-R', 'FR-S', 'FR-H', 'S-R', 'S-FR', 'S-H', 'H-R', 'H-FR', 'H-S')						FR=Freezing Rain, S=Snow, H=Hail, and combinations
hd_ph	float		Yes	NULL			pH
hd_ph_err	float		Yes	NULL			pH standard error
hd_cond	float		Yes	NULL		μmhos/cm, μS/cm	Conductivity
hd_cond_err	float		Yes	NULL		μmhos/cm, μS/cm	Conductivity standard error
hd_comp_species	enum('SO4', 'H2S', 'Cl', 'F', 'HCO3', 'Mg', 'Fe', 'Ca', 'Na', 'K', '3He4He', 'c3He4He', 'd13C', 'd34S', 'dD', 'd18O')		Yes	NULL			Type of compound, kation, anion or ratio
hd_comp_units	varchar(30)		Yes	NULL			Reported units
hd_comp_content	float		Yes	NULL			Content of compound, kation, anion or ratio
hd_comp_content_err	float		Yes	NULL			Content of compound, kation, anion or ratio error
hd_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Collector 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Collector 3 ID
hd_loaddate	datetime		Yes	NULL			Load date
hd_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by

							commas
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Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	hd_id
CODE	INDEX	hd_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	hs_id

Links:

Field	Link to
hs_id	hs.hs_id
hi_id	hi.hi_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
hd_time	$\subset [hs_id.hs_stime, hs_id.hs_etime]$
hd_time	$\subset [hi_id.hi_stime, hi_id.hi_etime]$
hs_id	$= hi_id.hs_id$
hd_code AND (cc_id OR cc_id2 OR cc_id3) AND hd_species	UNIQUE

hi – Hydrologic instrument

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
hi_id	smallint(5)	UNSIGNED	No		auto_increment		ID
hi_code	varchar(30)		Yes	NULL			Code
hs_id	smallint(5)	UNSIGNED	Yes	NULL			Hydrologic station ID
hi_name	varchar(255)		Yes	NULL			Name
hi_type	varchar(50)		Yes	NULL			Type
hi_meas	enum('A', 'V')		Yes	NULL			Pressure measurement type: A=Absolute, V=Vented
hi_units	varchar(50)		Yes	NULL			Measured units
hi_res	float		Yes	NULL			Resolution
hi_stime	datetime		No	0000-00-00 00:00:00			Start date
hi_stime_unc	datetime		Yes	NULL			Start date uncertainty
hi_etime	datetime		No	9999-12-31 23:59:59			End date
hi_etime_unc	datetime		Yes	NULL			End date uncertainty
hi_desc	varchar(255)		Yes	NULL			Description
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Owner 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Owner 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Owner 3 ID

hi_loaddate	datetime		Yes	NULL			Load date
hi_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	hi_id
CODE	INDEX	hi_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	hs_id

Links:

Field	Link to
hs_id	hs.hs_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
hi_stime	$\leq hi_etime$
hi_stime	$\subset [hs_id.hs_stime, hs_id.hs_etime]$
hi_etime	$\subset [hs_id.hs_stime, hs_id.hs_etime]$
hi_code AND (cc_id OR cc_id2 OR cc_id3) AND [hi_stime, hi_etime]	UNIQUE

hs – Hydrologic station

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
hs_id	smallint(5)	UNSIGNED	No		auto_increment		ID
hs_code	varchar(30)		Yes	NULL			Code
cn_id	smallint(5)	UNSIGNED	Yes	NULL			Hydrologic network ID
hs_lat	double		Yes	NULL		°	Latitude
hs_lon	double		Yes	NULL		°	Longitude
hs_elev	float		Yes	NULL		m	Elevation
hs_perm	varchar(255)		Yes	NULL			List of permanent instruments
hs_name	varchar(30)		Yes	NULL			Name
hs_type	varchar(255)		Yes	NULL			Type of water body
hs_utc	float		Yes	NULL			Difference from UTC
hs_tscr	float		Yes	NULL		m	Top of screen
hs_bscr	float		Yes	NULL		m	Bottom of screen
hs_tdepth	double		Yes	NULL		m	Total depth of well
hs_stime	datetime		No	0000-00-00 00:00:00			Start date
hs_stime_unc	datetime		Yes	NULL			Start date uncertainty
hs_etime	datetime		No	9999-12-31 23:59:59			End date

hs_etime_unc	datetime		Yes	NULL			End date uncertainty
hs_desc	varchar(255)		Yes	NULL			Description
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Owner 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Owner 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Owner 3 ID
hs_loaddate	datetime		Yes	NULL			Load date
hs_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	hs_id
CODE	INDEX	hs_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
NETWORK	INDEX	cn_id

Links:

Field	Link to
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cn_id	cn.cn_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
hs_stime	$\leq hs_etime$
hs_stime	$\subset [cn_id.cn_stime, cn_id.cn_etime]$
hs_etime	$\subset [cn_id.cn_stime, cn_id.cn_etime]$
hs_code AND (cc_id OR cc_id2 OR cc_id3) AND [hs_stime, hs_etime]	UNIQUE

ip_hyd – Hydrothermal system interaction

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
ip_hyd_id	smallint(5)	UNSIGNED	No		auto_increment		ID
ip_hyd_code	varchar(30)		Yes	NULL			Code
vd_id	mediumint(8)	UNSIGNED	Yes	NULL			Volcano ID
ip_hyd_time	datetime		Yes	NULL			Inference time
ip_hyd_time_unc	datetime		Yes	NULL			Inference time uncertainty
ip_hyd_start	datetime		Yes	NULL			Start time
ip_hyd_start_unc	datetime		Yes	NULL			Start time uncertainty
ip_hyd_end	datetime		Yes	NULL			End time
ip_hyd_end_unc	datetime		Yes	NULL			End time uncertainty
ip_hyd_gwater	enum('Y', 'N', 'M', 'U')		Yes	NULL			Heated groundwater: Y=Yes, N=No, M=Maybe, U=Unknown
ip_hyd_ipor	enum('Y', 'N', 'M', 'U')		Yes	NULL			Pore destabilization: Y=Yes, N=No, M=Maybe, U=Unknown
ip_hyd_edef	enum('Y', 'N', 'M', 'U')		Yes	NULL			Pore deformation: Y=Yes, N=No, M=Maybe, U=Unknown
ip_hyd_hfrac	enum('Y', 'N', 'M', 'U')		Yes	NULL			Hydrofracturing: Y=Yes, N=No, M=Maybe, U=Unknown

ip_hyd_btrem	enum('Y', 'N', 'M', 'U')		Yes	NULL		Boiling induced tremor: Y=Yes, N=No, M=Maybe, U=Unknown
ip_hyd_abgas	enum('Y', 'N', 'M', 'U')		Yes	NULL		Absorption of soluble gases: Y=Yes, N=No, M=Maybe, U=Unknown
ip_hyd_species	enum('Y', 'N', 'M', 'U')		Yes	NULL		Change in equilibrium species: Y=Yes, N=No, M=Maybe, U=Unknown
ip_hyd_chim	enum('Y', 'N', 'M', 'U')		Yes	NULL		Boiling until dry chimneys are formed: Y=Yes, N=No, M=Maybe, U=Unknown
ip_hyd_com	varchar(255)		Yes	NULL		Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL		Interpreter 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL		Interpreter 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL		Interpreter 3 ID
ip_hyd_loaddate	datetime		Yes	NULL		Load date
ip_hyd_pubdate	datetime		Yes	NULL		Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL		Loader ID
cb_ids	varchar(255)		Yes	NULL		List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	ip_hyd_id
CODE	INDEX	ip_hyd_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2

OWNER 3	INDEX	cc_id3
VOLCANO	INDEX	vd_id

Links:

Field	Link to
vd_id	vd.vd_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
ip_hyd_start	$\leq ip_hyd_end$
ip_hyd_start	$\leq ip_hyd_time$
ip_hyd_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

ip_mag – Magma movement

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
ip_mag_id	smallint(5)	UNSIGNED	No		auto_increment		ID
ip_mag_code	varchar(30)		Yes	NULL			Code
vd_id	mediumint(8)	UNSIGNED	Yes	NULL			Volcano ID
ip_mag_time	datetime		Yes	NULL			Inference time
ip_mag_time_unc	datetime		Yes	NULL			Inference time uncertainty
ip_mag_start	datetime		Yes	NULL			Start time
ip_mag_start_unc	datetime		Yes	NULL			Start time uncertainty
ip_mag_end	datetime		Yes	NULL			End time
ip_mag_end_unc	datetime		Yes	NULL			End time uncertainty
ip_mag_deepsupp	enum('Y', 'N', 'M', 'U')		Yes	NULL			Supply of magma from depth: Y=Yes, N=No, M=Maybe, U=Unknown
ip_mag_asc	enum('Y', 'N', 'M', 'U')		Yes	NULL			Ascent: Y=Yes, N=No, M=Maybe, U=Unknown
ip_mag_convb	enum('Y', 'N', 'M', 'U')		Yes	NULL			Convection below: Y=Yes, N=No, M=Maybe, U=Unknown
ip_mag_conva	enum('Y', 'N', 'M', 'U')		Yes	NULL			Convection above: Y=Yes, N=No, M=Maybe, U=Unknown

ip_mag_mix	enum('Y', 'N', 'M', 'U')		Yes	NULL			Magma mixing: Y=Yes, N=No, M=Maybe, U=Unknown
ip_mag_dike	enum('Y', 'N', 'M', 'U')		Yes	NULL			Dike intrusion: Y=Yes, N=No, M=Maybe, U=Unknown
ip_mag_pipe	enum('Y', 'N', 'M', 'U')		Yes	NULL			Pipe intrusion: Y=Yes, N=No, M=Maybe, U=Unknown
ip_mag_sill	enum('Y', 'N', 'M', 'U')		Yes	NULL			Sill intrusion: Y=Yes, N=No, M=Maybe, U=Unknown
ip_mag_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Interpreter 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Interpreter 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Interpreter 3 ID
ip_mag_loaddate	datetime		Yes	NULL			Load date
ip_mag_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	ip_mag_id
CODE	INDEX	ip_mag_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2

OWNER 3	INDEX	cc_id3
VOLCANO	INDEX	vd_id

Links:

Field	Link to
vd_id	vd.vd_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
ip_mag_start	$\leq ip_mag_end$
ip_mag_start	$\leq ip_mag_time$
ip_mag_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

ip_pres – Buildup of magma pressure

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
ip_pres_id	smallint(5)	UNSIGNED	No		auto_increment		ID
ip_pres_code	varchar(30)		Yes	NULL			Code
vd_id	mediumint(8)	UNSIGNED	Yes	NULL			Volcano ID
ip_pres_time	datetime		Yes	NULL			Inference date
ip_pres_time_unc	datetime		Yes	NULL			Inference date uncertainty
ip_pres_start	datetime		Yes	NULL			Start time
ip_pres_start_unc	datetime		Yes	NULL			Start time uncertainty
ip_pres_end	datetime		Yes	NULL			End time
ip_pres_end_unc	datetime		Yes	NULL			End time uncertainty
ip_pres_gas	enum('Y', 'N', 'M', 'U')		Yes	NULL			Gas-induced overpressure: Y=Yes, N=No, M=Maybe, U=Unknown
ip_pres_tec	enum('Y', 'N', 'M', 'U')		Yes	NULL			Tectonic overpressure: Y=Yes, N=No, M=Maybe, U=Unknown
ip_pres_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Interpreter 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Interpreter 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Interpreter 3 ID

ip_pres_loaddate	datetime		Yes	NULL			Load date
ip_pres_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	ip_pres_id
CODE	INDEX	ip_pres_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
VOLCANO	INDEX	vd_id

Links:

Field	Link to
vd_id	vd.vd_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
ip_pres_start	$\leq ip_pres_end$
ip_pres_start	$\leq ip_pres_time$
ip_pres_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

ip_sat – Volatile saturation

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
ip_sat_id	smallint(5)	UNSIGNED	No		auto_increment		ID
ip_sat_code	varchar(30)		Yes	NULL			Code
vd_id	mediumint(8)	UNSIGNED	Yes	NULL			Volcano ID
ip_sat_time	datetime		Yes	NULL			Inference time
ip_sat_time_unc	datetime		Yes	NULL			Inference time uncertainty
ip_sat_start	datetime		Yes	NULL			Start time
ip_sat_start_unc	datetime		Yes	NULL			Start time uncertainty
ip_sat_end	datetime		Yes	NULL			End time
ip_sat_end_unc	datetime		Yes	NULL			End time uncertainty
ip_sat_co2	enum('Y', 'N', 'M', 'U')		Yes	NULL			CO2 saturation: Y=Yes, N=No, M=Maybe, U=Unknown
ip_sat_h2o	enum('Y', 'N', 'M', 'U')		Yes	NULL			H2O saturation: Y=Yes, N=No, M=Maybe, U=Unknown
ip_sat_decomp	enum('Y', 'N', 'M', 'U')		Yes	NULL			Decompression: Y=Yes, N=No, M=Maybe, U=Unknown
ip_sat_dfo2	enum('Y', 'N', 'M', 'U')		Yes	NULL			Fugacity: Y=Yes, N=No, M=Maybe, U=Unknown

ip_sat_add	enum('Y', 'N', 'M', 'U')		Yes	NULL			Volatile addition: Y=Yes, N=No, M=Maybe, U=Unknown
ip_sat_xtl	enum('Y', 'N', 'M', 'U')		Yes	NULL			Crystallization or 2nd boiling: Y=Yes, N=No, M=Maybe, U=Unknown
ip_sat-ves	enum('Y', 'N', 'M', 'U')		Yes	NULL			Vesiculation: Y=Yes, N=No, M=Maybe, U=Unknown
ip_sat-deves	enum('Y', 'N', 'M', 'U')		Yes	NULL			Devesiculation: Y=Yes, N=No, M=Maybe, U=Unknown
ip_sat-degas	enum('Y', 'N', 'M', 'U')		Yes	NULL			Degassing: Y=Yes, N=No, M=Maybe, U=Unknown
ip_sat_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Interpreter 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Interpreter 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Interpreter 3 ID
ip_sat_loaddate	datetime		Yes	NULL			Load date
ip_sat_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	ip_sat_id
CODE	INDEX	ip_sat_code

OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
VOLCANO	INDEX	vd_id

Links:

Field	Link to
vd_id	vd.vd_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
ip_sat_start	$\leq ip_sat_end$
ip_sat_start	$\leq ip_sat_time$
ip_sat_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

ip_tec – Regional tectonics interaction

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
ip_tec_id	smallint(5)	UNSIGNED	No		auto_increment		ID
ip_tec_code	varchar(30)		Yes	NULL			Code
vd_id	mediumint(8)	UNSIGNED	Yes	NULL			Volcano ID
ip_tec_time	datetime		Yes	NULL			Inference time
ip_tec_time_unc	datetime		Yes	NULL			Inference time uncertainty
ip_tec_start	datetime		Yes	NULL			Start time
ip_tec_start_unc	datetime		Yes	NULL			Start time uncertainty
ip_tec_end	datetime		Yes	NULL			End time
ip_tec_end_unc	datetime		Yes	NULL			End time uncertainty
ip_tec_change	enum('Y', 'N', 'M', 'U')		Yes	NULL			Tectonic changes: Y=Yes, N=No, M=Maybe, U=Unknown
ip_tec_sstress	enum('Y', 'N', 'M', 'U')		Yes	NULL			Static stress: Y=Yes, N=No, M=Maybe, U=Unknown
ip_tec_dstrain	enum('Y', 'N', 'M', 'U')		Yes	NULL			Dynamic strain: Y=Yes, N=No, M=Maybe, U=Unknown
ip_tec_fault	enum('Y', 'N', 'M', 'U')		Yes	NULL			Local shear: Y=Yes, N=No, M=Maybe, U=Unknown

ip_tec_seq	enum('Y', 'N', 'M', 'U')		Yes	NULL			Slow earthquake: Y=Yes, N=No, M=Maybe, U=Unknown
ip_tec_press	enum('Y', 'N', 'M', 'U')		Yes	NULL			Distal pressurization: Y=Yes, N=No, M=Maybe, U=Unknown
ip_tec_depress	enum('Y', 'N', 'M', 'U')		Yes	NULL			Distal depressurization: Y=Yes, N=No, M=Maybe, U=Unknown
ip_tec_hppress	enum('Y', 'N', 'M', 'U')		Yes	NULL			Hydrothermal lubrication: Y=Yes, N=No, M=Maybe, U=Unknown
ip_tec_etide	enum('Y', 'N', 'M', 'U')		Yes	NULL			Earth-tide: Y=Yes, N=No, M=Maybe, U=Unknown
ip_tec_atmp	enum('Y', 'N', 'M', 'U')		Yes	NULL			Atmospheric influence: Y=Yes, N=No, M=Maybe, U=Unknown
ip_tec_com	char(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Interpreter 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Interpreter 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Interpreter 3 ID
ip_tec_loaddate	datetime		Yes	NULL			Load date
ip_tec_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	ip_tec_id

CODE	INDEX	ip_tec_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
VOLCANO	INDEX	vd_id

Links:

Field	Link to
vd_id	vd.vd_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
ip_tec_start	$\leq ip_tec_end$
ip_tec_start	$\leq ip_tec_time$
ip_tec_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

jj_concon – User to user permissions

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
jj_concon_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
cc_id	smallint(5)	UNSIGNED	No				Granting user ID
cc_id_granted	smallint(5)	UNSIGNED	No				Granted user ID
jj_concon_view	tinyint(1)		No	0			Permission to view unpublished data: 0=No, 1=Yes
jj_concon_upload	tinyint(1)		No	0			Permission to upload data: 0=No, 1=Yes
jj_concon_update	tinyint(1)		No	0			Permission to update data: 0=No, 1=Yes
jj_concon_admin	tinyint(1)		No	0			Permission to manage account: 0=No, 1=Yes
jj_concon_loaddate	datetime		Yes	<i>NULL</i>			Load date
cc_id_load	smallint(5)	UNSIGNED	Yes	<i>NULL</i>			Loader ID

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	jj_concon_id
GRANT	UNIQUE	cc_id
		cc_id_granted

Links:

Field	Link to
cc_id	cc.cc_id
cc_id_granted	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

None.

jj_imgx – Image junction

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
jj_imgx_id	smallint(5)	UNSIGNED	No		auto_increment		ID
cm_id	smallint(5)	UNSIGNED	No				Image ID
jj_idname	enum('cb', 'cc', 'ch', 'cm', 'cn', 'co', 'cp', 'cr', 'cr_tmp', 'cs', 'cu', 'dd_ang', 'dd_edm', 'dd_gps', 'dd_gpv', 'dd_lev', 'dd_sar', 'dd_srd', 'dd_str', 'dd_tlt', 'dd_tlv', 'di_gen', 'di_tlt', 'ds', 'ed', 'ed_for', 'ed_phs', 'ed_vid', 'fd_ele', 'fd_gra', 'fd_mag', 'fd_mgv', 'fi', 'fs', 'gd', 'gd_plu', 'gd_sol', 'gi', 'gs', 'hd', 'hi', 'hs', 'ip_hyd', 'ip_mag', 'ip_pres', 'ip_sat', 'ip_tec', 'jj_concon', 'jj_imgx', 'jj_volcon', 'jj_volnet', 'j_sarsat', 'md', 'sd_evn', 'sd_evs', 'sd_int', 'sd_ivl', 'sd_rsm', 'sd_sam', 'sd_ssm', 'sd_trm', 'sd_wav', 'si', 'si_cmp', 'sn', 'ss', 'st_eqt', 'td', 'td_img', 'td_pix', 'ti', 'ts', 'vd', 'vd_inf', 'vd_mag', 'vd_tec')		Yes	NULL			Table name
jj_x_id	mediumint(8)	UNSIGNED	Yes	NULL			Link ID
jj_imgx_loaddate	datetime		Yes	NULL			Load date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	jj_imgx_id

LINK	UNIQUE	cm_id
		jj_idname
		jj_x_id

Links:

Field	Link to
cm_id	cm.cm_id
jj_x_id	<i>jj_idname.jj_idname_id</i>
cc_id_load	cc.cc_id

Restrictions:

None.

jj_subnet – Network-subnetwork junction

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
jj_subnet_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
jj_net_id	smallint(5)	UNSIGNED	No				Network ID
jj_sub_id	smallint(5)	UNSIGNED	No				Subnetwork ID
jj_net_type	enum('C', 'S')		No				Network type (C=Common, S=Seismic)
jj_subnet_loaddate	datetime		No				Load date
cc_id_load	smallint(5)	UNSIGNED	No				Loader ID

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	jj_subnet_id
LINK	UNIQUE	jj_net_id
		jj_sub_id
		jj_net_type

Links:

Field	Link to
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jj_net_id	<i>jj_net_typen.jj_net_typen_id</i>
jj_sub_id	<i>jj_net_typen.jj_net_typen_id</i>
cc_id_load	cc.cc_id

Restrictions:

None.

jj_volcon – Volcano-contact junction

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
jj_volcon_id	smallint(5)	UNSIGNED	No		auto_increment		ID
vd_id	mediumint(8)	UNSIGNED	No				Volcano ID
cc_id	smallint(5)	UNSIGNED	No				Contact ID
jj_volcon_loaddate	datetime		Yes	<i>NULL</i>			Load date
cc_id_load	smallint(5)	UNSIGNED	Yes	<i>NULL</i>			Loader ID

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	jj_volcon_id
LINK	UNIQUE	vd_id
		cc_id

Links:

Field	Link to
vd_id	vd.vd_id
cc_id	cc.cc_id

cc_id_load	cc.cc_id
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Restrictions:

None.

jj_volnet – Volcano-network junction

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
jj_volnet_id	smallint(5)	UNSIGNED	No		auto_increment		ID
vd_id	mediumint(8)	UNSIGNED	Yes	NULL			Volcano ID
jj_net_id	smallint(5)	UNSIGNED	Yes	NULL			Network ID
jj_net_flag	enum('C', 'S')		Yes	NULL			Network type: C=Common, S=Seismic
jj_volnet_loaddate	datetime		Yes	NULL			Load date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	jj_volnet_id
LINK	UNIQUE	vd_id
		jj_net_id
		jj_net_flag

Links:

Field	Link to
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vd_id	vd.vd_id
jj_net_id	<i>jj_netflagn.jj_netflagn_id</i>
cc_id_load	cc.cc_id

Restrictions:

None.

j_sarsat – InSAR-satellite junction

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
j_sarsat_id	smallint(5)	UNSIGNED	No		auto_increment		ID
dd_sar_id	mediumint(8)	UNSIGNED	Yes	NULL			InSAR image ID
cs_id	smallint(5)	UNSIGNED	Yes	NULL			Satellite ID
j_sarsat_loaddate	datetime		Yes	NULL			Load date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	j_sarsat_id
LINK	UNIQUE	dd_sar_id
		cs_id

Links:

Field	Link to
dd_sar_id	dd_sar.dd_sar_id
cs_id	cs.cs_id

cc_id_load	cc.cc_id
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Restrictions:

None.

md – Map

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
md_id	smallint(5)	UNSIGNED	No		auto_increment		ID
md_code	varchar(30)		Yes	NULL			Code
vd_id	mediumint(8)		Yes	NULL			Volcano ID
md_name	varchar(255)		Yes	NULL			Name
md_type	varchar(30)		Yes	NULL			Type
md_srtm	varchar(255)		Yes	NULL			Link to SRTM
md_scale	varchar(30)		Yes	NULL			Scale
md_contour	float		Yes	NULL		m	Contour interval
md_date	date		Yes	NULL			Publication date
md_date_unc	date		Yes	NULL			Publication date uncertainty
md_proj	varchar(255)		Yes	NULL			Projection
mp_map_datum	varchar(255)		Yes	NULL			Datum
md_west	float		Yes	NULL		°	West bounding coordinate
md_east	float		Yes	NULL		°	East bounding coordinate
md_north	float		Yes	NULL		°	North bounding coordinate
md_south	float		Yes	NULL		°	South bounding coordinate

md_elev_max	float		Yes	NULL		m	Maximum elevation
md_elev_min	float		Yes	NULL		m	Minimum elevation
md_use	varchar(255)		Yes	NULL			Intended use
md_restrictions	varchar(255)		Yes	NULL			Restrictions on the use
md_quality	varchar(255)		Yes	NULL			Quality
md_image	varchar(255)		Yes	NULL			Link to image
md_desc	varchar(255)		Yes	NULL			Description
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Contact 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Contact 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Contact 3 ID
md_loaddate	datetime		Yes	NULL			Load date
md_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	md_id
CODE	INDEX	md_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3

VOLCANO	INDEX	vd_id
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Links:

Field	Link to
vd_id	vd.vd_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
md_elev_min	$\leq md_elev_max$
md_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

sd_evn – Seismic event data from a network

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
sd_evn_id	mediumint(8)	UNSIGNED	No		auto_increment		Seismic data ID
sd_evn_code	varchar(30)		Yes	NULL			Event ID given by observatory
sn_id	smallint(5)	UNSIGNED	Yes	NULL			Seismic network ID
sd_evn_arch	varchar(255)		Yes	NULL			Location of the seismogram archive
sd_evn_time	datetime		Yes	NULL			Origin time
sd_evn_timecsec	decimal(2,2)		Yes	NULL			Centiseconds precision for the origin time
sd_evn_time_unc	datetime		Yes	NULL			Origin time uncertainty
sd_evn_timecsec_unc	decimal(2,2)		Yes	NULL			Centiseconds precision for the on origin time
sd_evn_dur	float		Yes	NULL		s	Average duration of the earthquake as recorded at stations <15 km from the volcano (in sec)
sd_evn_dur_unc	float		Yes	NULL		s	The uncertainty in the average duration of the earthquake
sd_evn_tech	varchar(255)		Yes	NULL			The technique used to locate the event
sd_evn_picks	enum('A', 'R', 'H', 'U')		Yes	NULL			Determination of picks: A=Automatic picker, R=Ruler, H=Human using a

							computer-based picker, U=Unknown
sd_evn_elat	double		Yes	NULL		°	Estimated latitude
sd_evn_elon	double		Yes	NULL		°	Estimated longitude
sd_evn_edep	float		Yes	NULL		km	Estimated depth
sd_evn_fixdep	enum('Y', 'N', 'U')		Yes	NULL			Fixed depth: Y=Yes, N=No, U=Unknown
sd_evn_nst	tinyint(3)	UNSIGNED	Yes	NULL			The total number of seismic stations that reported arrival times for this earthquake
sd_evn_nph	tinyint(3)	UNSIGNED	Yes	NULL			The total number of P and S arrival-time observations used to compute the hypocenter location
sd_evn_gp	float		Yes	NULL		°	The largest azimuthal gap between azimuthally adjacent stations
sd_evn_dcs	float		Yes	NULL		km	Horizontal distance from the epicenter to the nearest station
sd_evn_rms	float		Yes	NULL		s	RMS travel time residual
sd_evn_herr	float		Yes	NULL		km	The horizontal location error defined as the length of the largest projection of the three principal errors on a horizontal plane
sd_evn_xerr	float		Yes	NULL		km	The maximum x (longitude) error for cases where the horizontal error is not given
sd_evn_yerr	float		Yes	NULL		km	The maximum y (latitude) error for cases where the horizontal error is not given
sd_evn_derr	float		Yes	NULL		km	The depth error defined as the largest projection of the three principal errors

							on a vertical line
sd_evn_locqual	varchar(255)		Yes	NULL			The quality of the calculated location
sd_evn_pmag	float		Yes	NULL			The primary magnitude
sd_evn_pmag_type	varchar(30)		Yes	NULL			The primary magnitude type, e.g., Ms, Mb, Mw, Md (the last, duration or "coda" magnitude)
sd_evn_smag	float		Yes	NULL			A secondary magnitude
sd_evn_smag_type	varchar(30)		Yes	NULL			A secondary magnitude type
sd_evn_eqtype	enum('R', 'Q', 'V', 'VT', 'VT_D', 'VT_S', 'H', 'H_HLF', 'H_LHF', 'LF', 'LF_LP', 'LF_T', 'LF_ILF', 'VLP', 'E')		Yes	NULL			The WOVODat terminology for the earthquake type
sd_evn_mtscale	float		Yes	NULL			The scale of the following moment tensor data. Please store as a multiplier for the moment tensor data
sd_evn_mxx	float		Yes	NULL			Moment tensor m_xx stored as +/- x.xx
sd_evn_mxy	float		Yes	NULL			Moment tensor m_xy stored as +/- x.xx
sd_evn_mxz	float		Yes	NULL			Moment tensor m_xz stored as +/- x.xx
sd_evn_myy	float		Yes	NULL			Moment tensor m_yy
sd_evn_myz	float		Yes	NULL			Moment tensor m_yz
sd_evn_mzz	float		Yes	NULL			Moment tensor m_zz
sd_evn_strk1	float		Yes	NULL		°	Strike 1 of best double couple
sd_evn_strk1_err	float		Yes	NULL		°	The uncertainty in the value of strike 1
sd_evn_dip1	float		Yes	NULL		°	Dip 1 of best double couple
sd_evn_dip1_err	float		Yes	NULL		°	The uncertainty in the value of dip 1

sd_evn_rak1	float		Yes	NULL		°	Rake 1 of best double couple
sd_evn_rak1_err	float		Yes	NULL		°	The uncertainty in the value of rake 1
sd_evn_strk2	float		Yes	NULL		°	Strike 2 of best double couple
sd_evn_strk2_err	float		Yes	NULL		°	The uncertainty in the value of strike 2
sd_evn_dip2	float		Yes	NULL		°	Dip 2 of best double couple
sd_evn_dip2_err	float		Yes	NULL		°	The uncertainty in the value of dip 2
sd_evn_rak2	float		Yes	NULL		°	Rake 2 of best double couple
sd_evn_rak2_err	float		Yes	NULL		°	The uncertainty in the value of rake 2
sd_evn_foc	varchar(255)		Yes	NULL			The focal plane solution (beachball, w/ arrivals) stored as a .gif for well defined events
sd_evn_samp	float		Yes	NULL		Hz	The sampling rate
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Owner 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Owner 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Owner 3 ID
sd_evn_loaddate	datetime		Yes	NULL			The date this row was entered in UTC
sd_evn_pubdate	datetime		Yes	NULL			The date this row can become public
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			The loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
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PRIMARY	PRIMARY	sd_evn_id
CODE	INDEX	sd_evn_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
NETWORK	INDEX	sn_id
TECHNIQUE	INDEX	sd_evn_tech

Links:

Field	Link to
sn_id	sn.sn_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
sd_evn_time	$\subset [sn_id.sn_stime, sn_id.sn_etime]$
sd_evn_gp	$0 \leq x \leq 360$
sd_evn_strk1	$0 \leq x \leq 360$

sd_evn_dip1	$0 \leq x \leq 90$
sd_evn_rak1	$-180 \leq x \leq 180$
sd_evn_strk2	$0 \leq x \leq 360$
sd_evn_dip2	$0 \leq x \leq 90$
sd_evn_rak2	$-180 \leq x \leq 180$
sd_evn_code AND sd_evn_tech AND sn_id AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

sd_evs – Seismic event data from a single station

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
sd_evs_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
sd_evs_code	varchar(30)		Yes	NULL			Code
ss_id	mediumint(8)	UNSIGNED	Yes	NULL			Seismic station ID
sd_evs_time	datetime		Yes	NULL			Start time
sd_evs_time_unc	datetime		Yes	NULL			Start time uncertainty
sd_evs_picks	enum('A', 'R', 'H', 'U')		Yes	NULL			Determination of picks: A=Automatic picker, R=Ruler, H=Human using a computer-based picker, U=Unknown
sd_evs_spint	float		Yes	NULL		s	S-P interval
sd_evs_dur	float		Yes	NULL		s	Duration
sd_evs_dur_unc	float		Yes	NULL		s	Duration uncertainty
sd_evs_dist_actven	float		Yes	NULL		km	Distance from active vent
sd_evs_maxamptrac	float		Yes	NULL			Maximum amplitude of trace
sd_evs_samp	float		Yes	NULL		Hz	Sampling rate
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Collector 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Collector 3 ID

sd_evs_loaddate	datetime		Yes	NULL			Load date
sd_evs_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	sd_evs_id
CODE	INDEX	sd_evs_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	ss_id

Links:

Field	Link to
ss_id	ss.ss_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
sd_evs_time	$\subset [ss_id.ss_stime, ss_id.ss_etime]$
sd_evs_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

sd_int – Intensity

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
sd_int_id	smallint(5)	UNSIGNED	No		auto_increment		ID
sd_int_code	varchar(30)		Yes	NULL			Code
vd_id	mediumint(8)	UNSIGNED	Yes	NULL			Volcano ID
sd_evn_id	mediumint(8)	UNSIGNED	Yes	NULL			Seismic event data from a network ID
sd_evs_id	mediumint(8)	UNSIGNED	Yes	NULL			Seismic event from a single station ID
sd_int_time	datetime		Yes	NULL			Time
sd_int_time_unc	datetime		Yes	NULL			Time uncertainty
sd_int_city	varchar(30)		Yes	NULL			City
sd_int_maxdist	float		Yes	NULL		km	Max distance felt
sd_int_maxrint	float		Yes	NULL			Maximum reported intensity
sd_int_maxrint_dist	float		Yes	NULL		km	Distance at maximum reported intensity
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Collector 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Collector 3 ID
sd_int_loaddate	datetime		Yes	NULL			Load date
sd_int_pubdate	datetime		Yes	NULL			Publish date

cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	sd_int_id
CODE	INDEX	sd_int_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
VOLCANO	INDEX	vd_id

Links:

Field	Link to
vd_id	vd.vd_id
sd_evn_id	sd_evn.sd_evn_id
sd_evs_id	sd_evs.sd_evs_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
sd_int_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

sd_ivl – Interval (swarm)

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
sd_ivl_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
sd_ivl_code	varchar(30)		Yes	NULL			Code
sn_id	smallint(5)	UNSIGNED	Yes	NULL			Seismic network ID
ss_id	mediumint(8)	UNSIGNED	Yes	NULL			Seismic station ID
sd_ivl_eqtype	enum('R', 'Q', 'V', 'VT', 'VT_D', 'VT_S', 'H', 'H_HLF', 'H_LHF', 'LF', 'LF_LP', 'LF_T', 'LF_ILF', 'VLP', 'E')		Yes	NULL			Earthquake type
sd_ivl_stime	datetime		Yes	NULL			Start time
sd_ivl_stime_unc	datetime		Yes	NULL			Start time uncertainty
sd_ivl_etime	datetime		Yes	NULL			End time
sd_ivl_etime_unc	datetime		Yes	NULL			End time uncertainty
sd_ivl_hdist	float		Yes	NULL		km	Horizontal distance from summit to swarm center
sd_ivl_avgdepth	float		Yes	NULL		m	Mean depth
sd_ivl_vdispers	float		Yes	NULL		km	Vertical dispersion
sd_ivl_hmigr_hyp	float		Yes	NULL		km	Horizontal migration of hypocenters
sd_ivl_vmigr_hyp	float		Yes	NULL		km	Vertical migration of hypocenters

sd_ivl_patt	varchar(30)		Yes	NULL			Temporal pattern
sd_ivl_data	enum('L', 'C', 'H', 'U')		Yes	NULL			Data type: L=Located earthquakes, C=Detected by computer trigger algorithm, H=Hand counted, U=Unknown
sd_ivl_picks	enum('A', 'R', 'H', 'U')		Yes	NULL			Determination of picks: A=Automatic picker, R=Ruler, H=Human using a computer-based picker, U=Unknown
sd_ivl_felt_stime	datetime		Yes	NULL			Earthquake counts felt start time
sd_ivl_felt_stime_unc	datetime		Yes	NULL			Earthquake counts felt start time uncertainty
sd_ivl_felt_etime	datetime		Yes	NULL			Earthquake counts felt end time
sd_ivl_felt_etime_unc	datetime		Yes	NULL			Earthquake counts felt end time uncertainty
sd_ivl_nrec	mediumint(6)	UNSIGNED	Yes	NULL			Number of recorded earthquakes
sd_ivl_nfelt	smallint(4)	UNSIGNED	Yes	NULL			Number of felt earthquakes
sd_ivl_etot_stime	datetime		Yes	NULL			Total seismic energy release measurement start time
sd_ivl_etot_stime_unc	datetime		Yes	NULL			Total seismic energy release measurement start time uncertainty
sd_ivl_etot_etime	datetime		Yes	NULL			Total seismic energy release measurement end time
sd_ivl_etot_etime_unc	datetime		Yes	NULL			Total seismic energy release measurement end time uncertainty
sd_ivl_etot	float		Yes	NULL		erg _{0.5}	Total seismic energy release

sd_ivl_desc	varchar(255)		Yes	NULL			Description
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Collector 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Collector 3 ID
sd_ivl_loaddate	datetime		Yes	NULL			Load date
sd_ivl_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	sd_ivl_id
CODE	INDEX	sd_ivl_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	ss_id
NETWORK	INDEX	sn_id

Links:

Field	Link to
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sn_id	sn.sn_id
ss_id	ss.ss_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
sd_ivl_stime	$\leq sd_ivl_etime$
sd_ivl_felt_stime	$\leq sd_ivl_felt_etime$
sd_ivl_etot_stime	$\leq sd_ivl_etot_etime$
sd_ivl_stime	$\subset [sn_id.sn_stime, sn_id.sn_etime]$
sd_ivl_etime	$\subset [sn_id.sn_stime, sn_id.sn_etime]$
sd_ivl_stime	$\subset [ss_id.ss_stime, ss_id.ss_etime]$
sd_ivl_etime	$\subset [ss_id.ss_stime, ss_id.ss_etime]$
sd_ivl_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

sd_rsm – RSAM data

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
sd_rsm_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
sd_sam_id	mediumint(8)	UNSIGNED	Yes	<i>NULL</i>			RSAM-SSAM ID
sd_rsm_stime	datetime		Yes	<i>NULL</i>			Start time
sd_rsm_stime_unc	datetime		Yes	<i>NULL</i>			Start time uncertainty
sd_rsm_count	float		Yes	<i>NULL</i>			Count
sd_rsm_calib	float		Yes	<i>NULL</i>			Reduced displacement per 100 RSAM counts
sd_rsm_loaddate	datetime		Yes	<i>NULL</i>			Load date
cc_id_load	smallint(5)	UNSIGNED	Yes	<i>NULL</i>			Loader ID

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	sd_rsm_id
TIME	UNIQUE	sd_sam_id
		sd_rsm_stime

Links:

Field	Link to
sd_sam_id	sd_sam.sd_sam_id
cc_id_load	cc.cc_id

Restrictions:

None.

Special case – RSAM data:

For all RSAM data of the same RSAM-SSAM data:

- start time (sd_rsm_stime) must be unique and continuous

$$\Leftrightarrow \text{sd_rsm_stime} (n+1) = \text{sd_rsm_stime} (n) + \text{sd_sam_int}$$

sd_sam – RSAM-SSAM

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
sd_sam_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
sd_sam_code	varchar(30)		Yes	NULL			Code
ss_id	mediumint(8)	UNSIGNED	Yes	NULL			Seismic station ID
sd_sam_stime	datetime		Yes	NULL			Start time
sd_sam_stime_unc	datetime		Yes	NULL			Start time uncertainty
sd_sam_etime	datetime		Yes	NULL			End time
sd_sam_etime_unc	datetime		Yes	NULL			End time uncertainty
sd_sam_int	float		Yes	NULL		s	Counting interval
sd_sam_int_unc	float		Yes	NULL		s	Counting interval uncertainty
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Collector 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Collector 3 ID
sd_sam_loaddate	datetime		Yes	NULL			Load date
sd_sam_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	sd_sam_id
CODE	INDEX	sd_sam_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	ss_id

Links:

Field	Link to
ss_id	ss.ss_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
sd_sam_stime	$\leq sd_sam_etime$
sd_sam_stime	$\subset [ss_id.ss_stime, ss_id.ss_etime]$

sd_sam_etime	$\subset [ss_id.ss_stime, ss_id.ss_etime]$
sd_sam_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

sd_ssm – SSAM data

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
sd_ssm_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
sd_sam_id	mediumint(8)	UNSIGNED	Yes	NULL			RSAM-SSAM ID
sd_ssm_stime	datetime		Yes	NULL			Start time
sd_ssm_stime_unc	datetime		Yes	NULL			Start time uncertainty
sd_ssm_lowf	float		Yes	NULL		Hz	Low frequency limit
sd_ssm_highf	float		Yes	NULL		Hz	High frequency limit
sd_ssm_count	float		Yes	NULL			Count
sd_ssm_calib	float		Yes	NULL			Reduced displacement per 100 SSAM counts
sd_ssm_loaddate	datetime		Yes	NULL			Load date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	sd_ssm_id
TIME AND FREQUENCY	UNIQUE	sd_sam_id
		sd_ssm_stime

	sd_ssm_lowf
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Links:

Field	Link to
sd_sam_id	sd_sam.sd_sam_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
sd_ssm_lowf	$\leq sd_ssm_highf$

Special case – SSAM data:

For all SSAM data of the same RSAM-SSAM data:

- combination of low frequency limit (sd_ssm_lowf) and start time (sd_ssm_stime) must be unique and continuous:

$$\Leftrightarrow sd_ssm_lowf (n+1) = sd_ssm_highf (n) \text{ AND } sd_ssm_stime (n+1) = sd_ssm_stime (n)$$

$$\text{OR } sd_ssm_lowf (n+1) = \text{MINIMUM } (sd_ssm_lowf) \text{ AND } sd_ssm_stime (n+1) = sd_ssm_stime (n) + sd_sam_int$$

sd_trm – Tremor

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
sd_trm_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
sd_trm_code	varchar(30)		Yes	NULL			Code
sn_id	smallint(5)	UNSIGNED	Yes	NULL			Seismic network ID
ss_id	mediumint(8)	UNSIGNED	Yes	NULL			Seismic station ID
sd_trm_stime	datetime		Yes	NULL			Start time
sd_trm_stime_unc	datetime		Yes	NULL			Start time uncertainty
sd_trm_etime	datetime		Yes	NULL			End time
sd_trm_etime_unc	datetime		Yes	NULL			End time uncertainty
sd_trm_dur_day	float		Yes	NULL		min	Duration per day
sd_trm_dur_day_unc	float		Yes	NULL		min	Duration per day uncertainty
sd_trm_type	enum('G', 'M', 'H', 'C')		Yes	NULL			Type: G=General, M=Monochromatic, H=Harmonic, C=Close-events
sd_trm_qdepth	enum('D', 'I', 'S', 'U')		Yes	NULL			Qualitative depth: D=Deep (>10 km), I=Intermediate (4-10 km), S=Shallow (0-4 km), U =Unknown
sd_trm_domfreq1	float		Yes	NULL		Hz	Dominant frequency
sd_trm_domfreq2	float		Yes	NULL		Hz	Second dominant frequency
sd_trm_maxamp	float		Yes	NULL			Maximum amplitude

sd_trm_noise	float		Yes	NULL			Background noise level
sd_trm_reddis	float		Yes	NULL			Reduced displacement (as estimated using a station >5km from source)
sd_trm_rderr	float		Yes	NULL			Reduced displacement error
sd_trm_visact	varchar(255)		Yes	NULL			Description of associated visible activity
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Collector 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Collector 3 ID
sd_trm_loaddate	datetime		Yes	NULL			Load date
sd_trm_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	sd_trm_id
CODE	INDEX	sd_trm_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	ss_id
NETWORK	INDEX	sn_id

Links:

Field	Link to
sn_id	sn.sn_id
ss_id	ss.ss_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
sd_trm_stime	$\leq sd_trm_etime$
sd_trm_stime	$\subset [sn_id.sn_stime, sn_id.sn_etime]$
sd_trm_etime	$\subset [sn_id.sn_stime, sn_id.sn_etime]$
sd_trm_stime	$\subset [ss_id.ss_stime, ss_id.ss_etime]$
sd_trm_etime	$\subset [ss_id.ss_stime, ss_id.ss_etime]$
sd_trm_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

sd_wav – Waveform

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
sd_wav_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
sd_wav_code	varchar(30)		Yes	NULL			Code
ss_id	mediumint(8)	UNSIGNED	Yes	NULL			Seismic station ID
sd_evt_id	mediumint(8)	UNSIGNED	Yes	NULL			Seismic event ID
sd_evt_flag	enum('N', 'S', 'T')		Yes	NULL			Seismic event type: N=Network, S=Single station, T=Tremor
sd_wav_arch	varchar(255)		Yes	NULL			Location of seismogram archive
sd_wav_link	varchar(255)		Yes	NULL			Link to archive
sd_wav_dist	enum('P', 'I', 'D', 'U')		Yes	NULL			Distance from summit: P=Proximal (< 2 km), I=Intermediate (2-5 km), D=Distal (> 5 km), U=Unknown
sd_wav_img	varchar(255)		Yes	NULL			Image
sd_wav_info	varchar(255)		Yes	NULL			Information
sd_wav_desc	varchar(255)		Yes	NULL			Description
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Collector 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Collector 3 ID
sd_wav_loaddate	datetime		Yes	NULL			Load date

sd_wav_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	sd_wav_id
CODE	INDEX	sd_wav_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	ss_id
EVENT	INDEX	sd_evt_id
EVENT TYPE	INDEX	sd_evt_flag

Links:

Field	Link to
ss_id	ss.ss_id
sd_evt_id	IF sd_evt_flag = N \Rightarrow sd_evn.sd_evn_id, S \Rightarrow sd_evs.sd_evs_id, T \Rightarrow sd_trm.sd_trm_id
cc_id	cc.cc_id
cc_id2	cc.cc_id

cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
sd_wav_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

si – Seismic instrument

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
si_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
si_code	varchar(30)		Yes	NULL			Code
ss_id	mediumint(8)	UNSIGNED	Yes	NULL			Seismic station ID
si_name	varchar(255)		Yes	NULL			Name
si_type	varchar(255)		Yes	NULL			Type
si_range	varchar(255)		Yes	NULL			Dynamic range
si_igain	float		Yes	NULL			Gain
si_filter	varchar(255)		Yes	NULL			Filters
si_ncomp	tinyint(3)	UNSIGNED	Yes	NULL			Number of components
si_resp	varchar(255)		Yes	NULL			Response overview
si_resp_file	varchar(255)		Yes	NULL			File containing response
si_stime	datetime		No	0000-00-00 00:00:00			Start date
si_stime_unc	datetime		Yes	NULL			Start date uncertainty
si_etime	datetime		No	9999-12-31 23:59:59			End date
si_etime_unc	datetime		Yes	NULL			End date uncertainty
si_com	varchar(255)		Yes	NULL			Comments

cc_id	smallint(5)	UNSIGNED	Yes	NULL			Owner 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Owner 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Owner 3 ID
si_loaddate	datetime		Yes	NULL			Load date
si_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	si_id
CODE	INDEX	si_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	ss_id

Links:

Field	Link to
ss_id	ss.ss_id
cc_id	cc.cc_id

cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
si_stime	$\leq si_etime$
si_stime	$\subset [ss_id.ss_stime, ss_id.ss_etime]$
si_etime	$\subset [ss_id.ss_stime, ss_id.ss_etime]$
si_code AND (cc_id OR cc_id2 OR cc_id3) AND [si_stime, si_etime]	UNIQUE

si_cmp – Seismic component

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
si_cmp_id	smallint(5)	UNSIGNED	No		auto_increment		ID
si_cmp_code	varchar(30)		Yes	NULL			Code
si_id	mediumint(8)	UNSIGNED	Yes	NULL			Seismic instrument ID
si_cmp_name	varchar(255)		Yes	NULL			Name
si_cmp_type	varchar(255)		Yes	NULL			Type
si_cmp_resp	varchar(255)		Yes	NULL			Description of response
si_cmp_band	varchar(30)		Yes	NULL			Band type (SEED convention)
si_cmp_samp	float		Yes	NULL		Hz	Sampling rate
si_cmp_icode	varchar(30)		Yes	NULL			Instrument code (SEED convention)
si_cmp_orient	varchar(30)		Yes	NULL			Orientation code (SEED convention)
si_cmp_sens	varchar(255)		Yes	NULL			Sensitivity
si_cmp_depth	float		Yes	NULL		m	Depth
si_cmp_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Owner 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Owner 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Owner 3 ID

si_cmp_loaddate	datetime		Yes	NULL			Load date
si_cmp_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	si_cmp_id
CODE	INDEX	si_cmp_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
INSTRUMENT	INDEX	si_id

Links:

Field	Link to
si_id	si.si_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
si_cmp_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

sn – Seismic network

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
sn_id	smallint(5)	UNSIGNED	No		auto_increment		ID
sn_code	varchar(30)		Yes	NULL			Code
vd_id	mediumint(8)	UNSIGNED	Yes	NULL			Volcano ID
sn_name	varchar(30)		Yes	NULL			Name
sn_vmodel	varchar(511)		Yes	NULL			Description of velocity model
sn_vmodel_detail	varchar(255)		Yes	NULL			Link to a file containing additional details about velocity model
sn_zerokm	varchar(255)		Yes	NULL		m	Elevation of zero km “depth”
sn_fdepth	varchar(255)		Yes	NULL			Fixed depth description
sn_fdepth_flag	enum('Y', 'N', 'U')		Yes	NULL			Depth is fixed: Y=Yes, N=No, U=Unknown
sn_stime	datetime		No	0000-00-00 00:00:00			Start date
sn_stime_unc	datetime		Yes	NULL			Start date uncertainty
sn_etime	datetime		No	9999-12-31 23:59:59			End date
sn_etime_unc	datetime		Yes	NULL			End date uncertainty

sn_tot	tinyint(3)	UNSIGNED	Yes	NULL			Total number of seismometers
sn_bb	tinyint(3)	UNSIGNED	Yes	NULL			Number of broadband seismometers
sn_smp	tinyint(3)	UNSIGNED	Yes	NULL			Number of short- and mid-period seismometers
sn_digital	tinyint(3)	UNSIGNED	Yes	NULL			Number of digital seismometers
sn_analog	tinyint(3)	UNSIGNED	Yes	NULL			Number of analog seismometers
sn_tcomp	tinyint(3)	UNSIGNED	Yes	NULL			Number of 3 component seismometers
sn_micro	tinyint(3)	UNSIGNED	Yes	NULL			Number of microphones
sn_desc	varchar(255)		Yes	NULL			Description
sn_utc	float		Yes	NULL			Difference from UTC
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Owner 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Owner 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Owner 3 ID
sn_loaddate	datetime		Yes	NULL			Load date
sn_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	sn_id
CODE	INDEX	sn_code
OWNER 1	INDEX	cc_id

OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
VOLCANO	INDEX	vd_id
VELOCITY MODEL	INDEX	sn_vmodel

Links:

Field	Link to
vd_id	vd.vd_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
sn_bb	$\leq sn_tot$
sn_smp	$\leq sn_tot$
sn_digital	$\leq sn_tot$
sn_analog	$\leq sn_tot$
sn_tcomp	$\leq sn_tot$
sn_micro	$\leq sn_tot$

sn_code AND (cc_id OR cc_id2 OR cc_id3) AND [sn_stime, sn_etime]	UNIQUE
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ss – Seismic station

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
ss_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
ss_code	varchar(30)		Yes	NULL			Code
sn_id	smallint(5)	UNSIGNED	Yes	NULL			Seismic network ID
ss_name	varchar(30)		Yes	NULL			Name
ss_lat	double		Yes	NULL		°	Latitude
ss_lon	double		Yes	NULL		°	Longitude
ss_elev	float		Yes	NULL		m	Elevation
ss_depth	varchar(255)		Yes	NULL		m	Depth of instruments
ss_stime	datetime		No	0000-00-00 00:00:00			Start date
ss_stime_unc	datetime		Yes	NULL			Start date uncertainty
ss_etime	datetime		No	9999-12-31 23:59:59			End date
ss_etime_unc	datetime		Yes	NULL			End date uncertainty
ss_utc	float		Yes	NULL			Difference from UTC
ss_instr_type	varchar(255)		Yes	NULL			Instrument types
ss_sgain	float		Yes	NULL			System gain
ss_desc	varchar(255)		Yes	NULL			Description

ss_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Owner 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Owner 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Owner 3 ID
ss_loaddate	datetime		Yes	NULL			Load date
ss_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	ss_id
CODE	INDEX	ss_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
NETWORK	INDEX	sn_id

Links:

Field	Link to
sn_id	sn.sn_id

cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
ss_stime	$\leq ss_etime$
ss_stime	$\subset [sn_id.sn_stime, sn_id.sn_etime]$
ss_etime	$\subset [sn_id.sn_stime, sn_id.sn_etime]$
ss_code AND (cc_id OR cc_id2 OR cc_id3) AND [ss_stime, ss_etime]	UNIQUE

st_eqt – Earthquake type translation

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
st_eqt_id	smallint(5)	UNSIGNED	No		auto_increment		ID
st_eqt_org	varchar(255)		Yes	NULL			Original terminology
st_eqt_wovo	varchar(255)		Yes	NULL			WOVOdat terminology
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Contact ID
st_eqt_loaddate	datetime		Yes	NULL			Load date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	st_eqt_id
USER TRANSLATION	UNIQUE	st_eqt_wovo
		cc_id

Links:

Field	Link to
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cc_id	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

None.

td – Ground-based thermal data

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
td_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
td_code	varchar(30)		Yes	NULL			Code
ts_id	smallint(5)	UNSIGNED	Yes	NULL			Thermal station
ti_id	smallint(5)	UNSIGNED	Yes	NULL			Thermal instrument
td_mtype	varchar(255)		Yes	NULL			Measurement type
td_time	datetime		Yes	NULL			Measurement time
td_time_unc	datetime		Yes	NULL			Measurement time uncertainty
td_depth	float		Yes	NULL		m	Depth of measurement
td_distance	float		Yes	NULL		m	Distance from instrument to the measured object
td_calc_flag	enum('O', 'R')		Yes	NULL			Recalculated value: O=Original, R=Recalculated
td_temp	float		Yes	NULL		°C	Temperature
td_terr	float		Yes	NULL		°C	Temperature standard error
td_aarea	float		Yes	NULL		m ²	Approximate area of body measured
td_flux	float		Yes	NULL		W/ m ²	Heat flux
td_ferr	float		Yes	NULL		W/ m ²	Heat flux standard error
td_bkgg	float		Yes	NULL		°C/km	Background geothermal gradient

td_tcond	float		Yes	NULL		W/ (m ² °C)	Thermal conductivity
td_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Collector 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Collector 3 ID
td_loaddate	datetime		Yes	NULL			Load date
td_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	td_id
CODE	INDEX	td_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	ts_id

Links:

Field	Link to
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ts_id	ts.ts_id
ti_id	ti.ti_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
td_time	$\subset [ts_id.ts_stime, ts_id.ts_etime]$
td_time	$\subset [ti_id.ti_stime, ti_id.ti_etime]$
ts_id	$= ti_id.ts_id$
td_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

td_img – Thermal image

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
td_img_id	smallint(5)	UNSIGNED	No		auto_increment		ID
td_img_code	varchar(30)		Yes	NULL			Code
vd_id	mediumint(8)	UNSIGNED	Yes	NULL			Volcano ID
cs_id	smallint(5)	UNSIGNED	Yes	NULL			Satellite ID
ts_id	smallint(5)	UNSIGNED	Yes	NULL			Thermal station ID
ti_id	smallint(5)	UNSIGNED	Yes	NULL			Thermal instrument ID
td_img_iplat	varchar(255)		Yes	NULL			Description of instrument platform
td_img_ialt	float		Yes	NULL		m	Instrument altitude
td_img_ilat	float		Yes	NULL		°	Instrument latitude
td_img_ilon	float		Yes	NULL		°	Instrument longitude
td_img_idatum	varchar(50)		Yes	NULL			Datum
td_img_desc	varchar(255)		Yes	NULL			Description
td_img_time	datetime		Yes	NULL			Time
td_img_time_unc	datetime		Yes	NULL			Time uncertainty
td_img_bname	varchar(255)		Yes	NULL			Band name
td_img_hbwave	float		Yes	NULL		µm	High band wavelength

td_img_lbwave	float		Yes	NULL		μm	Low band wavelength
td_img_jpg	blob	BINARY	Yes	NULL			JPG
td_img_psize	float		Yes	NULL		m	Pixel size
td_img_maxrad	float		Yes	NULL		$W/(m^2 \cdot m) \times 10^7$	Maximum radiance
td_img_maxrrad	float		Yes	NULL		$W/(m^2 \cdot m \times sr) \times 10^7$	Maximum relative radiance
td_img_maxtemp	float		Yes	NULL		°C	Maximum temperature
td_img_totrad	float		Yes	NULL		$W/(m^2 \cdot m) \times 10^7$	Total radiance
td_img_maxflux	float		Yes	NULL		W/m^2	Maximum heat flux
td_img_ntres	float		Yes	NULL		°C	Nominal temperature resolution
td_img_atmcorr	varchar(255)		Yes	NULL			Atmospheric correction
td_img_thmcorr	varchar(255)		Yes	NULL			Thermal correction
td_img_ortho	varchar(255)		Yes	NULL			Orthorectification procedure
td_img_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Collector 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Collector 3 ID
td_img_loaddate	datetime		Yes	NULL			Load date
td_img_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	td_img_id
CODE	INDEX	td_img_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
VOLCANO	INDEX	vd_id
STATION	INDEX	ts_id

Links:

Field	Link to
vd_id	vd.vd_id
cs_id	cs.cs_id
ts_id	ts.ts_id
ti_id	ti.ti_id
cc_id	cc.cc_id
cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
td_img_time	$\subset [cs_id.cs_stime, cs_id.cs_etime]$
td_img_time	$\subset [ts_id.ts_stime, ts_id.ts_etime]$
td_img_time	$\subset [ti_id.ti_stime, ti_id.ti_etime]$
ts_id	$= ti_id.ts_id$
cs_id	$= ti_id.cs_id$
vd_id	$= ts_id.cn_id.vd_id$ OR $jj_volnet.vd_id$ WHERE $jj_volnet.jj_net_id=ts_id.cn_id$ AND $jj_volnet.jj_net_flag=C$
td_img_code AND (cc_id OR cc_id2 OR cc_id3)	UNIQUE

td_pix – Thermal image pixel

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
td_pix_id	smallint(5)	UNSIGNED	No		auto_increment		ID
td_img_id	smallint(5)	UNSIGNED	Yes	NULL			Thermal image ID
td_pix_elev	float		Yes	NULL		m	Elevation
td_pix_lat	float		Yes	NULL		°	Latitude
td_pix_lon	float		Yes	NULL		°	Longitude
td_pix_rad	float		Yes	NULL		$W/(m^2 \cdot m) \times 10^7$	Radiance
td_pix_flux	float		Yes	NULL		W/m^2	Heat flux
td_pix_temp	float		Yes	NULL		°C	Temperature
td_pix_loaddate	datetime		Yes	NULL			Load date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	td_pix_id
LAT/LON	UNIQUE	td_img_id
		td_pix_lat

		td_pix_lon
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Links:

Field	Link to
td_img_id	td_img.td_img_id
cc_id_load	cc.cc_id

Restrictions:

None.

ti – Thermal instrument

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
ti_id	smallint(5)	UNSIGNED	No		auto_increment		ID
ti_code	varchar(30)		Yes	NULL			Code
cs_id	smallint(5)	UNSIGNED	Yes	NULL			Satellite ID
ts_id	smallint(5)	UNSIGNED	Yes	NULL			Thermal station ID
ti_type	varchar(255)		Yes	NULL			Type
ti_name	varchar(255)		Yes	NULL			Name
ti_units	varchar(50)		Yes	NULL			Measured units
ti_pres	float		Yes	NULL			Resolution
ti_stn	float		Yes	NULL			Signal to noise
ti_stime	datetime		No	0000-00-00 00:00:00			Start date
ti_stime_unc	datetime		Yes	NULL			Start date uncertainty
ti_etime	datetime		No	9999-12-31 23:59:59			End date
ti_etime_unc	datetime		Yes	NULL			End date uncertainty
ti_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Owner 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Owner 2 ID

cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Owner 3 ID
ti_loaddate	datetime		Yes	NULL			Load date
ti_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	ti_id
CODE	INDEX	ti_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
STATION	INDEX	ts_id
SATELLITE	INDEX	cs_id

Links:

Field	Link to
cs_id	cs.cs_id
ts_id	ts.ts_id
cc_id	cc.cc_id

cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
ti_stime	$\leq ti_etime$
ti_stime	$\subset [ts_id.ts_stime, ts_id.ts_etime]$
ti_etime	$\subset [ts_id.ts_stime, ts_id.ts_etime]$
ti_stime	$\subset [cs_id.cs_stime, cs_id.cs_etime]$
ti_etime	$\subset [cs_id.cs_stime, cs_id.cs_etime]$
ti_code AND (cc_id OR cc_id2 OR cc_id3) AND [ti_stime, ti_etime]	UNIQUE

ts – Thermal station

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
ts_id	smallint(5)	UNSIGNED	No		auto_increment		ID
ts_code	varchar(30)		Yes	NULL			Code
cn_id	smallint(5)	UNSIGNED	Yes	NULL			Thermal network ID
ts_name	varchar(30)		Yes	NULL			Name
ts_type	varchar(255)		Yes	NULL			Type of thermal feature
ts_ground	varchar(255)		Yes	NULL			Soil or ground type
ts_lat	float		Yes	NULL		°	Latitude
ts_lon	float		Yes	NULL		°	Longitude
ts_elev	float		Yes	NULL		m	Elevation
ts_perm	varchar(255)		Yes	NULL			List of permanent instruments
ts_utc	float		Yes	NULL			Difference from UTC
ts_stime	datetime		No	0000-00-00 00:00:00			Start date
ts_stime_unc	datetime		Yes	NULL			Start date uncertainty
ts_etime	datetime		No	9999-12-31 23:59:59			End date
ts_etime_unc	datetime		Yes	NULL			End date uncertainty
ts_desc	varchar(255)		Yes	NULL			Description

cc_id	smallint(5)	UNSIGNED	Yes	NULL			Owner 1 ID
cc_id2	smallint(5)	UNSIGNED	Yes	NULL			Owner 2 ID
cc_id3	smallint(5)	UNSIGNED	Yes	NULL			Owner 3 ID
ts_loaddate	datetime		Yes	NULL			Load date
ts_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	ts_id
CODE	INDEX	ts_code
OWNER 1	INDEX	cc_id
OWNER 2	INDEX	cc_id2
OWNER 3	INDEX	cc_id3
NETWORK	INDEX	cn_id

Links:

Field	Link to
cn_id	cn.cn_id
cc_id	cc.cc_id

cc_id2	cc.cc_id
cc_id3	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
ts_stime	$\leq ts_etime$
ts_stime	$\subset [cn_id.cn_stime, cn_id.cn_etime]$
ts_etime	$\subset [cn_id.cn_stime, cn_id.cn_etime]$
ts_code AND (cc_id OR cc_id2 OR cc_id3) AND [ts_stime, ts_etime]	UNIQUE

vd – Volcano

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
vd_id	mediumint(8)	UNSIGNED	No		auto_increment		ID
vd_cavw	varchar(15)		Yes	<i>NULL</i>			The current CAVW number
vd_name	varchar(255)		Yes	<i>NULL</i>			Name
vd_tzone	float		Yes	<i>NULL</i>			Time zone
vd_mcont	char(1)		Yes	<i>NULL</i>			M=Multiple contacts for this volcano
cc_id	smallint(5)	UNSIGNED	Yes	<i>NULL</i>			Contact ID
vd_loaddate	datetime		Yes	<i>NULL</i>			Load date
vd_pubdate	datetime		Yes	<i>NULL</i>			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	<i>NULL</i>			Loader ID

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	vd_id
CAVW NUMBER	UNIQUE	vd_cavw

Links:

Field	Link to
cc_id	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

None.

vd_inf – Volcano information

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
vd_inf_id	smallint(5)	UNSIGNED	No		auto_increment		ID
vd_id	mediumint(8)	UNSIGNED	Yes	NULL			Volcano ID
vd_inf_cavw	varchar(15)		Yes	NULL			CAVW number
vd_inf_status	enum('Anthropology', 'Ar/Ar', 'Dendrochronology', 'Fumarolic', 'Historical', 'Holocene', 'Holocene?', 'Hot Springs', 'Hydration Rind', 'Hydrophonic', 'Ice Core', 'Lichenometry', 'Magnetism', 'Pleistocene', 'Potassium-Argon', 'Radiocarbon', 'Seismicity', 'Surface Exposure', 'Tephrochronology', 'Thermoluminescence', 'Uncertain', 'Uranium-series', 'Varve Count', 'Unknown')		Yes	NULL			Status
vd_inf_desc	varchar(255)		Yes	NULL			Short narrative
vd_inf_slat	double		Yes	NULL		°	Summit latitude
vd_inf_slon	double		Yes	NULL		°	Summit longitude
vd_inf_selev	float		Yes	NULL		m	Summit elevation
vd_inf_type	enum('Caldera', 'Cinder cone', 'Complex volcano',		Yes	NULL			Type

	'Compound volcano', 'Cone', 'Crater rows', 'Explosion craters', 'Fissure vent', 'Hydrothermal field', 'Lava cone', 'Lava dome', 'Maar', 'Pumice cone', 'Pyroclastic cone', 'Pyroclastic shield', 'Scoria cone', 'Shield volcano', 'Somma volcano', 'Stratovolcano', 'Subglacial volcano', 'Submarine volcano', 'Tuff cone', 'Tuff ring', 'Unknown', 'Volcanic complex', 'Volcanic field')						
vd_inf_evol	float		Yes	NULL		m ³	Volume of edifice
vd_inf_numcald	tinyint(4)	UNSIGNED	Yes	NULL			Number of calderas
vd_inf_lcald_dia	float		Yes	NULL		km	Diameter of largest caldera
vd_inf_ycald_lat	double		Yes	NULL		°	Latitude of youngest caldera
vd_inf_ycald_lon	double		Yes	NULL		°	Longitude of youngest caldera
vd_inf_stime	datetime		No	0000-00-00 00:00:00			Start time
vd_inf_stime_unc	datetime		Yes	NULL			Start time uncertainty
vd_inf_etime	datetime		No	9999-12-31 23:59:59			End time

vd_inf_etime_unc	datetime		Yes	NULL		End time uncertainty
cc_id	smallint(5)	UNSIGNED	Yes	NULL		Contact ID
vd_inf_loaddate	datetime		Yes	NULL		Load date
vd_inf_pubdate	datetime		Yes	NULL		Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL		Loader ID

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	vd_inf_id
VOLCANO	INDEX	vd_id
STATUS	INDEX	vd_inf_status
TYPE	INDEX	vd_inf_type

Links:

Field	Link to
vd_id	vd.vd_id
cc_id	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

Field	Restriction
vd_id AND [vd_inf_stime, vd_inf_etime]	UNIQUE

vd_mag – Magma chamber

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
vd_mag_id	smallint(5)	UNSIGNED	No		auto_increment		ID
vd_id	mediumint(8)	UNSIGNED	Yes	NULL			Volcano ID
vd_mag_lvz_dia	float		Yes	NULL		km	Diameter of low velocity zone
vd_mag_lvz_vol	float		Yes	NULL		km ³	Volume of low velocity zone
vd_mag_tlvz	float		Yes	NULL		km	Depth to top of low velocity zone
vd_mag_lerup_vol	double		Yes	NULL		km ³	Volume of largest eruption
vd_mag_drock	varchar(60)		Yes	NULL			Dominant rock type
vd_mag_orock	varchar(60)		Yes	NULL			Outlier rock type
vd_mag_orock2	varchar(60)		Yes	NULL			Second outlier rock type
vd_mag_orock3	varchar(60)		Yes	NULL			Third outlier rock type
vd_mag_minsio2	float		Yes	NULL			Minimum SiO ₂ content of whole rocks erupted
vd_mag_maxsio2	float		Yes	NULL			Maximum SiO ₂ content of whole rocks erupted
vd_mag_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector ID
vd_mag_loaddate	datetime		Yes	NULL			Load date
vd_mag_pubdate	datetime		Yes	NULL			Publish date

cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
PRIMARY	PRIMARY	vd_mag_id
VOLCANO	INDEX	vd_id

Links:

Field	Link to
vd_id	vd.vd_id
cc_id	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

None.

vd_tec – Tectonic setting

Description:

Field	Type	Attributes	Null	Default	Extra	Unit	Comments
vd_tec_id	smallint(5)	UNSIGNED	No		auto_increment		ID
vd_id	mediumint(8)	UNSIGNED	Yes	NULL			Volcano ID
vd_tec_desc	varchar(255)		Yes	NULL			Description
vd_tec_strslip	float		Yes	NULL		cm/a	Rate of strike-slip
vd_tec_ext	float		Yes	NULL		cm/a	Rate of extension
vd_tec_conv	float		Yes	NULL		cm/a	Rate of convergence
vd_tec_travhs	float		Yes	NULL		cm/a	Travel rate across hotspot
vd_tec_com	varchar(255)		Yes	NULL			Comments
cc_id	smallint(5)	UNSIGNED	Yes	NULL			Collector ID
vd_tec_loaddate	datetime		Yes	NULL			Load date
vd_tec_pubdate	datetime		Yes	NULL			Publish date
cc_id_load	smallint(5)	UNSIGNED	Yes	NULL			Loader ID
cb_ids	varchar(255)		Yes	NULL			List of cb_ids separated by commas

Indexes:

Keyname	Type	Field
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PRIMARY	PRIMARY	vd_tec_id
VOLCANO	INDEX	vd_id

Links:

Field	Link to
vd_id	vd.vd_id
cc_id	cc.cc_id
cc_id_load	cc.cc_id

Restrictions:

None.