

DPOS REPORT
JAVAD POST-PROCESSING SERVICE
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USER: DATE: 2/13/2021
FILE: 12 TIME: 8:21:58 PM

SOFTWARE: Justin v.3(12/23/2020 1:06:54 AM) START: 2/4/2021 2:42:34 PM
EPHEMERIS: brdc STOP: 2/4/2021 8:33:09 PM
OBS USED: 18031 / 20789 TIME SPAN: 350
ANT NAME: JAVTRIUMPH 2A NONE FIXED AMB: Yes
ANT HEIGHT: Vertical(ARP) 4.890(sf) OVERALL RMS: 0.025(sf)
ANT DELTA N/E/H:0.000/0.000/0.000

REF FRAME: NAD83(2011) (EPOCH:2010.0000) ITRF2014 (EPOCH:2021.0945)

X:	4860066.336(sf)	0.007(sf)	4860063.219(sf)	0.007(sf)
Y:	-14675087.688(sf)	0.017(sf)	-14675083.035(sf)	0.017(sf)
Z:	14056230.476(sf)	0.017(sf)	14056230.488(sf)	0.017(sf)
LAT:	N 42° 28' 14.52611"	0.009(sf)	N 42° 28' 14.56218"	0.009(sf)
E LON:	E 288° 19' 25.44677"	0.017(sf)	E 288° 19' 25.42688"	0.017(sf)
W LON:	W 71° 40' 34.55323"	0.017(sf)	W 71° 40' 34.57312"	0.017(sf)
EL HGT:	160.078(sf)	0.017(sf)	156.106(sf)	0.017(sf)
ORTHO HGT:	252.425(sf)	0.017(sf)	[NAVD88 (Computed using GEOID18)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 19)	SPC (Massachusetts Mainland)
Northing (Y) [survey feet]	15437995.983	2996605.221
Easting (X) [survey feet]	918606.603	608610.364
Convergence [degrees]	-1.81109069	-0.11840205
Point Scale	1.00019557	0.99997564
Combined Factor	1.00018792	0.99996799

US NATIONAL GRID DESIGNATOR:

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(sf)
NONE	CTPU	N 41° 53' 58.88855"	W 71° 53' 20.88968"	215940.964
NONE	MAMI	N 42° 16' 19.38626"	W 71° 02' 55.25015"	184399.078
NONE	MASB	N 42° 06' 41.08112"	W 72° 05' 13.98573"	171783.126
NONE	MAWM	N 42° 33' 40.62119"	W 71° 55' 59.20787"	76722.938
NONE	ZBW1	N 42° 44' 08.55824"	W 71° 28' 49.51841"	110039.275

	RESIDUALS OF POSITION					
VECTOR	dX (sf)	dY (sf)	dZ (sf)	dN (sf)	dE (sf)	dU (sf)
ZBW1=>12	0.007	0.017	0.017	0.009	0.017	0.017
MAWM=>12	0.007	0.017	0.017	0.009	0.017	0.017
MAMI=>12	0.007	0.017	0.017	0.009	0.017	0.017

	RESIDUALS OF POSITION					
VECTOR	dX (sf)	dY (sf)	dZ (sf)	dN (sf)	dE (sf)	dU (sf)
MASB=>12	0.007	0.017	0.017	0.009	0.017	0.017
CTPU=>12	0.007	0.017	0.017	0.009	0.017	0.017

Single solution report

Solution name:	MAMI - 12	Solution type:	Fixed
Processed at:	2/13/2021 8:21:36 PM	Fix ratio:	100%
Begin time:	2/4/2021 2:43:00 PM	Time span, min:	350
End time:	2/4/2021 8:33:00 PM	Rec interval, sec:	30.000
Measurement used:	27072 of 33546 (19% discarded)	RMS residual:	0.044(sf)

Used satellites: GPS(18)/GLONASS(14)
Used obs:

Ephemeris:	Broadcast	Temperature, °C:	20
Cut off angle, °:	12	Pressure, hPa:	980
Processing mode:	Auto	Humidity, %:	50

Point name:	MAMI	12
Session name:	mami0350.21d.gz	12_094214.jpg
Receiver type:	LEICA GR50	JAVAD TRIUMPH2
Receiver number:		01370
Receiver ID:	1870372	03BSH7AY2ZZ0J2TFPBI4F19NUR
Antenna type:	LEIAR20	JAVTRIUMPH_2A NONE
Serial number:	16074003	
Antenna ARP height, (sf)	Vertical(ARP)-0.000	Vertical(ARP)-4.890
Antenna delta N/E/H, (sf)	0.000/0.000/0.000	0.000/0.000/0.000
Phase center variations:		

X, m	1535068.448	1481350.234
Y, m	-4470499.134	-4472974.255
Z, m	4268000.641	4284347.624
Latitude	N 42° 16' 19.42255"	N 42° 28' 14.56224"
Longitude	W 71° 02' 55.26908"	W 71° 40' 34.57312"
Height, sf	-61.362	156.112

DX, (m):	-53718.2155	Sigma X, m:	0.0034
DY, (m):	-2475.1094	Sigma Y, m:	0.0034
DZ, (m):	16346.9835	Sigma Z, m:	0.0034
Baseline length, (m):	56204.9528	SL, (m):	0.0134

Covariance matrix, (m):		X		Y		Z
	X	1.181042E-005				
	Y	-2.669162E-005		8.464555E-005		
	Z	2.565663E-005		-7.836739E-005		8.242585E-005

Ellipsoidal distance, (m):	56204.96662653
Forward azimuth, °:	-66.672379275
Back azimuth, °:	370.421
Elevation angle forward, °:	-0.606
Elevation angle backward, °:	-1.049
Height difference, (sf):	217.474

Solution name:	MAWM - 12	Solution type:	Fixed
Processed at:	2/13/2021 8:21:39 PM	Fix ratio:	100%
Begin time:	2/4/2021 2:43:00 PM	Time span, min:	350
End time:	2/4/2021 8:33:00 PM	Rec interval, sec:	30.000
Measurement used:	28091 of 33390 (16% discarded)	RMS residual:	0.043(sf)

Used satellites:	GPS (18) / GLONASS (14)
Used obs:	

Ephemeris:	Broadcast	Temperature, °C:	20
Cut off angle, °:	12	Pressure, hPa:	980
Processing mode:	Auto	Humidity, %:	50

Point name:	MAWM	12
Session name:	mawm0350.21d.gz	12_094214.jps
Receiver type:	LEICA GR30	JAVAD TRIUMPH2
Receiver number:		01370
Receiver ID:	1706816	03BSH7AY2ZZ0J2TFPBI4F19NUR
Antenna type:	LEIAR20	LEIM
Serial number:	21078005	JAVTRIUMPH_2A NONE
Antenna ARP height, (sf)	Vertical (ARP) -0.000	Vertical (ARP) -4.890
Antenna delta N/E/H, (sf)	0.000/0.000/0.000	0.000/0.000/0.000
Phase center variations:		
X, m	1459236.168	1481350.234
Y, m	-4473293.172	-4472974.255
Z, m	4291945.906	4284347.624
Latitude	N 42° 33' 40.65725"	N 42° 28' 14.56224"
Longitude	W 71° 55' 59.22816"	W 71° 40' 34.57312"
Height, sf	1036.670	156.112

DX, (m):	22114.0725	Sigma X, m:	0.0046
DY, (m):	318.9216	Sigma Y, m:	0.0046
DZ, (m):	-7598.2753	Sigma Z, m:	0.0046
Baseline length, (m):	23385.2026	SL, (m):	0.0132

Covariance matrix, (m):		X		Y		Z
	X	2.150013E-005				
	Y	-1.436575E-005		7.733008E-005		
	Z	9.672852E-006		-4.916591E-005		7.446982E-005

Ellipsoidal distance, (m):	23383.00537991
Forward azimuth, °:	115.400938017
Back azimuth, °:	969.731
Elevation angle forward, °:	-2.502
Elevation angle backward, °:	1.813
Height difference, (sf):	-880.557

Solution name: MASB - 12 Solution type: Fixed
Processed at: 2/13/2021 8:21:32 PM Fix ratio: 100%
Begin time: 2/4/2021 2:43:00 PM Time span, min: 350
End time: 2/4/2021 8:33:00 PM Rec interval, sec: 30.000
Measurement used: 27942 of 33243 (16% discarded) RMS residual: 0.049(sf)

Used satellites: GPS(18)/GLONASS(14)
Used obs:

Ephemeris: Broadcast Temperature, °C: 20
Cut off angle, °: 12 Pressure, hPa: 980
Processing mode: Auto Humidity, %: 50

Point name: MASB 12
Session name: masb0350.21d.gz 12_094214.jps
Receiver type: LEICA GR30 JAVAD TRIUMPH2
Receiver number: 01370
Receiver ID: 1706791 03BSH7AY2ZZ0J2TFPBI4F19NUR
Antenna type: LEIAR20 LEIM JAVTRIUMPH_2A NONE
Serial number: 21059002
Antenna ARP height, (sf) Vertical(ARP)-0.000 Vertical(ARP)-4.890
Antenna delta N/E/H, (sf) 0.000/0.000/0.000 0.000/0.000/0.000
Phase center variations:
X, m 1457515.129 1481350.234
Y, m -4509115.693 -4472974.255
Z, m 4254899.160 4284347.624
Latitude N 42° 06' 41.11684" N 42° 28' 14.56224"
Longitude W 72° 05' 14.00587" W 71° 40' 34.57312"
Height, sf 519.493 156.112

DX, (m): 23835.1049 Sigma X, m: 0.0039
DY, (m): 36141.4264 Sigma Y, m: 0.0039
DZ, (m): 29448.4615 Sigma Z, m: 0.0039
Baseline length, (m): 52359.5914 SL, (m): 0.0150

Covariance matrix, (m):

	X	Y	Z
X	1.495500E-005		
Y	-3.325895E-005	1.050137E-004	
Z	3.230822E-005	-9.868058E-005	1.063158E-004

Ellipsoidal distance, (m): 52358.78567031
Forward azimuth, °: 40.200636490
Back azimuth, °: 723.349
Elevation angle forward, °: -1.170
Elevation angle backward, °: -0.374
Height difference, (sf): -363.381

Solution name: ZBW1 - 12 Solution type: Fixed
Processed at: 2/13/2021 8:21:30 PM Fix ratio: 99%
Begin time: 2/4/2021 2:43:00 PM Time span, min: 350
End time: 2/4/2021 8:33:00 PM Rec interval, sec: 30.000
Measurement used: 18031 of 20789 (13% discarded) RMS residual: 0.041(sf)

Used satellites: GPS(18)
Used obs:

Ephemeris: Broadcast Temperature, °C: 20
Cut off angle, °: 12 Pressure, hPa: 980
Processing mode: Auto Humidity, %: 50

Point name: ZBW1 12
Session name: zbw10350.21d.gz 12_094214.jps
Receiver type: NOV WAASGII JAVAD TRIUMPH2
Receiver number: 01370
Receiver ID: 6EC1 03BSH7AY2ZZ0J2TFPBI4F19NUR
Antenna type: MPL_WAAS_2225NW NONE JAVTRIUMPH_2A NONE
Serial number:
Antenna ARP height, (sf) Vertical(ARP)-0.000 Vertical(ARP)-4.890
Antenna delta N/E/H, (sf) 0.000/0.000/0.000 0.000/0.000/0.000
Phase center variations:
X, m 1490299.001 1481350.234

Y, m	-4448982.884	-4472974.255
Z, m	4306010.215	4284347.624
Latitude	N 42° 44' 08.59462"	N 42° 28' 14.56224"
Longitude	W 71° 28' 49.53825"	W 71° 40' 34.57312"
Height, sf	126.880	156.112

DX, (m):	-8948.7627	Sigma X, m:	0.0033
DY, (m):	-23991.3865	Sigma Y, m:	0.0033
DZ, (m):	-21662.5931	Sigma Z, m:	0.0033
Baseline length, (m):	33540.0495	SL, (m):	0.0126

Covariance matrix, (m):		X		Y		Z
X		1.086061E-005				
Y		-2.328611E-005		7.547370E-005		
Z		2.201750E-005		-6.917490E-005		7.311365E-005

Ellipsoidal distance, (m):	33539.84849959
Forward azimuth, °:	-151.301883198
Back azimuth, °:	93.719
Elevation angle forward, °:	-0.445
Elevation angle backward, °:	-0.545
Height difference, (sf):	29.232

Solution name:	CTPU - 12	Solution type:	Fixed
Processed at:	2/13/2021 8:21:35 PM	Fix ratio:	100%
Begin time:	2/4/2021 2:43:00 PM	Time span, min:	350
End time:	2/4/2021 8:33:00 PM	Rec interval, sec:	30.000
Measurement used:	32204 of 42452 (24% discarded)	RMS residual:	0.041 (sf)

Used satellites:	GPS (18) / GLONASS (14) / GALILEO (14)
Used obs:	

Ephemeris:	Broadcast	Temperature, °C:	20
Cut off angle, °:	12	Pressure, hPa:	980
Processing mode:	Auto	Humidity, %:	50

Point name:	CTPU	12
Session name:	ctpu0350.21d.gz	12_094214.jps
Receiver type:	TRIMBLE ALLOY	JAVAD TRIUMPH2
Receiver number:		01370
Receiver ID:	5920R40055	03BSH7AY2ZZ0J2TFPBI4F19NUR
Antenna type:	TRM57971.00 NONE	JAVTRIUMPH_2A NONE
Serial number:	1441015102	
Antenna ARP height, (sf)	Vertical (ARP) -0.000	Vertical (ARP) -4.890
Antenna delta N/E/H, (sf)	0.000/0.000/0.000	0.000/0.000/0.000
Phase center variations:		
X, m	1477963.706	1481350.234
Y, m	-4518935.346	-4472974.255
Z, m	4237355.688	4284347.624
Latitude	N 41° 53' 58.92423"	N 42° 28' 14.56224"
Longitude	W 71° 53' 20.90941"	W 71° 40' 34.57312"
Height, sf	183.336	156.112

DX, (m):	3386.5228	Sigma X, m:	0.0032
DY, (m):	45961.0998	Sigma Y, m:	0.0032
DZ, (m):	46991.9331	Sigma Z, m:	0.0032
Baseline length, (m):	65818.9411	SL, (m):	0.0125

Covariance matrix, (m):		X		Y		Z
X		1.051275E-005				
Y		-2.308283E-005		7.334975E-005		
Z		2.227399E-005		-6.811708E-005		7.293988E-005

Ellipsoidal distance, (m):	65818.69512662
Forward azimuth, °:	15.424993516
Back azimuth, °:	641.626
Elevation angle forward, °:	-0.995
Elevation angle backward, °:	-0.948
Height difference, (sf):	-27.224
