ASTER Level-1A: ORBITAL GEOMETRY PARAMETERS

Parameter	Dimensions	Unit	Type	Description
Satellite Position	x, y, z (13 x 3)	meters	double	Sat. position vector in ECF[*]
Satellite Velocity	x, y, z (13 x 3)	meters	double	Sat. velocity vector in ECF[*]
Attitude Angle	roll, pitch, yaw (13 x 3)	arc seconds	double	Sat. attitude angle in ORF[**]
Attitude Rate	roll, pitch, yaw (13 x 3)	arcsec/sec	double	Sat. attitude angular velocity in ORF[**]
Observation Time[***]	UTC (13 x 4)	day, millisec, microsec	integer	Observation time of lattice point
Latitude	x, y (13 x 11)	degrees	double	Geocentric latitude
Longitude	x, y (13 x 11)	degrees	double	Geocentric longitude
Lattice Point Coordinates	x, y (13 x 11)	pixel, line	integer	Coordinates based on Level-1A
Line-of-Sight Vectors	roll, pitch, yaw (11 x 3)	none	double	Line-of-Sight Vectors in ORF[**]

[*] ECF: Earth-Centered Inertial Frame
[**] ORF: Orbital Reference Frame
[***] Consultative Committee for Space Data Systems (CCSDS) Binary Timecode

Note: The above dimensions relate to the VNIR reference-band (Band-2). They are different for the SWIR and TIR sensors.