

Rational Function Models ProPack

RATIONAL FUNCTION MODELS PROPACK

Extend the functionality of the PCI ProSDK through the Rational Function Models ProPack. This ProPack enables flexible use and automation of PCI Geomatics' robust, rational function orthorectification technology.

Rational function models are available for the following types of imagery:

- QuickBird
- IKONOS
- OrbView-3
- CARTOSAT
- NITF with RPC

The core PCI Pluggable Function (PPF) in the Rational Function Models ProPack is RFMODEL. Other PPFs are included in this ProPacks to provide operations that complement the computation of rational function models, as described below.

SOME OF THE INCLUDED COMPLEMENTARY PPFs

Image Preparation

- MERGEBAND
 - Assembles multiple coincident single-band images with rational polynomial coefficients (RPCs) in TIF or NITF format into a single multispectral image in a PCIDSK file with valid RPCs.
- QBASMBLE
 - Assembles separately distributed tiles of a single QuickBird image into a single image with valid RPCs.

Project Management

- CRPROJ
 - Creates a project file based on a list of input images and optionally GCP segments.
- MERGPROJ
 - Merges multiple project files.
- SUBPROJ
 - Subsets a project file based on a given set of images or area.

Ground Control Point (GCP) and Tie Point (TP) Management

- GCPIMPORT
 - Imports ground control data from a GCP segment in a PCIDSK file into a project file.
- GCPREAD
 - Imports ground control point data from a text file into a GCP segment in a PCIDSK file.
- GCPWRIT
 - Exports ground control point data from a GCP segment in a PCIDSK file to a text file.
- GCPEXPORT
 - Exports ground control points from a project file into a GCP segment in a PCIDSK file.
- GCPPRO
 - Converts input ground control points (GCPs) to the specified output units.
- GCPELEV
 - Obtains elevations for GCPs from a DEM.
- TPIMPORT
 - Imports tie point data from a text file into a project file.

- TPEXPORT
 - Exports tie point data from a project file to a text file.

Digital Elevation Model (DEM) Creation

- VDEMINT
 - Generates a raster DEM from elevation data in vector layers and observes 2D breakline constraints.
- NNINT
 - Generates a raster DEM from spot elevations read from a raster, using natural neighbour interpolation.

DEM and Vector Elevation Reference Transfer

- DEMZREF
 - Transforms raster DEM elevation values from mean sea level to ellipsoidal.
- VECZREF
 - Transforms 3D vector elevation values from mean sea level to ellipsoidal.

Image Normalization

- HOTSPOT
 - Performs a correction for hotspot effects in an image channel.

Adjustment

- OEMODEL
 - Calculates a block adjustment for a set of images in a project file and generates math model segments for each image.

Orthorectification

- ORTHO
 - Orthorectifies an image using an existing geometric model and, optionally, a digital elevation model.

Image Management

- IMERGE
 - Merges multiple geocoded rasters into a single file.
- REPROJ
 - Reprojects images, bitmap segments and vector layers to a specified projection.
- CLIP
 - Clips layers based on a user defined clip region.
- TILE
 - Creates multiple subset tiles from a single file.
- PYRAMID
 - Builds an image pyramid for one or more image layers in a data file.

For more information, contact

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