SEVENPAR - Modelling of Helmert Seven Parameter Sets

Language / Sprache
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Helpful links

https://www.killetsoft.de/bestell/svp_be_e.htm	Online order form with current prices
https://www.killetsoft.de/s_prei_e.htm	Printable order form and current price list
https://www.killetsoft.de/h_prod_e.htm	Overview of the software distributed by KilletSoft

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Modelling of Helmert Seven Parameter Sets from identical points in two Reference Systems
SEVENPAR is a tool for the computation of highly exact transformation parameters of the spatial Helmert or Molodensky transformation, which are useable to calculate precise coordinate transformations from one reference system into another. The determined transformation parameters can be entered directly into suitable transformation software (e.g. TRANSDAT Coordinate Transformation) or into the calculation software of GPS receivers to do exact coordinate transformations.

The seven respectively three exact transformation parameters are computed with the aid of upto one million identical points. Those are points with known coordinates in two different Reference Systems (geodetic datum). Suitable are Cartesian Coordinates and also Geographical Coordinates and UTM Coordinates with ellipsoidal height using the earth ellipsoid dimensions. Identical measuring points of higher order can be inquired or referred by the official measurement survays. The necessary ellipsoid half-axes and flattenings are available in the program for the selection from lists.

The coordinates of the identical points are tested intensively on outliers and deviations by different statistic procedures. The quality of the computed parameters is documented by a residual matrix and by the computation of the middle, maximum and root mean square (RMS) deviations. In addition, the quality of a Helmert Parameter Set is checked by cross-calculation.

The seven parameters of the Spatial Helmert Transformation are calculated in the three standards "Coordinate Frame Rotation", "Position Vector Transformation" and "European Standard ISO 19111". The three parameters for Molodenky parameter sets are calculated using the "Standard Molodensky Transformation".

The network able program SEVENPAR is equipped with an up-to-date graphic user surface which handling can be understood intuitively. For each window detailed help texts can be shown. The program has user-selectable interfaces in English, Spanish, French, Portuguese, Slovenian and German language and comes with extensive bi-language online help.

Installer program sevenpar_setup.exe
The program SEVENPAR is stored in a directory of a data carrier or is downloadable from the internet. In order to be able to use the program, it must be installed first.

The installation can be executed under Microsoft Windows 2000, NT, XP, VISTA, 7, 8, 10, 11 and compatible operating systems. The program runs with 32 bit and 64 bit operating systems.

Installation from a data carrier: Navigate to the SEVENPAR directory on the data carrier. Click on the installer program sevenpar_setup.exe. The installation will start. Follow the instructions of the installer.

Installation from a ZIP file: After the download from the Internet or after copied from an email attachment use a ZIP decompression utility to decompress the ZIP file in a folder of your choice. In that folder locate the installer program sevenpar_setup.exe and click it. The installation will start. Follow the instructions of the installer

Local installation on a workstation
The local installation on a workstation should be performed by a user, who must have write, read and execute

rights for the installation directory. The installation directory should be a local directory on the workstation.
Examples:
c:\applications\sevenpar
c:\programs\sevenpar

In the installation directory automatically three subdirectories with then names "ProgData", "UserData" and "Info" will be created.
Example:
c:\applications\sevenpar\ProgData
c:\applications\sevenpar\UserData
c:\applications\sevenpar\Info

The directories have the following contents:

sevenpar:	Executables and DLLs
sevenpar\ProgData:	Program data files for which reading access is necessary.
sevenpar\UserData:	Test data for which reading access is necessary.
sevenpar\Info:	ReadMe, history and info files and order form.

After finishing the installation on the workstation desktop a program icon as shortcut to the program SEVENPAR is available. The program can also be started directly from the installation directory by clicking on the program entry in WINDOWS Explorer.

Automatic creation of the data directory
The first time SEVENPAR is started, it will create a subdirectory "sevenpar" under the directory referred to the systems environment variable "APPDATA". In this directory the user specific data will be written by the program. In a subdirectory "UserData" the user-generated files are stored as default. Here the supplied test data can be found.
Example:
c:\Users\fred\AppData\Roaming\sevenpar
c:\Users\fred\AppData\Roaming\sevenpar\UserData
with the content of the environment variable APPDATA:
c:\Users\fred\AppData\Roaming

The directories on the workstation have the following contents:

sevenpar:	From the program needed files with user-relevant data, for which write access is required.
sevenpar\UserData:	Test data and user-generated files, for which write access is required.

Network installation
Network installation should be performed by a network administrator, who must have write, read and execute rights for the installation directory. The network installation differs from the local installation only in that way, that the installation directory is on a network drive instead of a local drive.
Examples:
h:\applications\sevenpar
or in network syntax:
\\allusers\applications\sevenpar

In the installation directory automatically three subdirectories with then names "ProgData", "UserData" and "Info" will be created.
Examples:
h:\applications\sevenpar\ProgData
h:\applications\sevenpar\UserData
h:\applications\sevenpar\Info
or in network syntax:
\\allusers\applications\sevenpar\ProgData
\\allusers\applications\sevenpar\UserData
\\allusers\applications\sevenpar\Info

The directories have the following contents:

sevenpar:	Executables and DLLs
sevenpar\ProgData:	Program data files for which reading and writing access is necessary.
sevenpar\UserData:	Test data for which reading access is necessary.
sevenpar\Info:	ReadMe, history and Info files and order form.

After the network installation is finished the network administrator must start the SEVENPAR program from a workstation for the first time, so that the program performs the necessary initializations. An additional installation on the workstations is not necessary!

Now it is possible to paste the SEVENPAR program icon as shortcuts to the workstation desktops for starting the program. The program can also be started directly from the network installation directory by clicking on the program entry in WINDOWS Explorer.

Automatic client installation
When the network installation of the SEVENPAR program is complete, the users can start it from their workstations. The first time SEVENPAR is started from a workstation, it will create a subdirectory "sevenpar" under the directory referred to the systems environment variable "APPDATA". In this directory subdirectories will bee created and the user specific data will be written to it. This behavior makes possible to use Terminal Services on WINDOWS Servers like e.g. "Citrix Terminal Server". In a subdirectory "UserData" the user-generated files are stored as default. Here the supplied test data can be found.
Example:

c:\Users\fred\AppData\Roaming\sevenpar
c:\Users\fred\AppData\Roaming\sevenpar\UserData

with the content of the environment variable APPDATA:

c:\Users\fred\AppData\Roaming

The directories on the workstation have the following contents:

sevenpar:	From the program needed files with user-relevant data, for which write access is required.
sevenpar\UserData:	Test data and user-generated files, for which write access is required.

Uninstallation
In the SEVENPAR start menu an icon is available for the complete uninstallation of the program.

Help
The help file contains global information to the program in form of an program intern electronic manual. The Englisch or German language help can be called from the SEVENPAR start menu or from the menu item "help" while the program is running.

Unlocking
Please read information for the use of the free, but restricted test version and for the transfer of the test version into the unrestricted full version in the electronic manual.

Price list
Prices and a purchase order form for the order of the unrestricted full version of the program you will find during the program is running under the menu item "Help". Alternatively you can view and download the price list on our website (see below).

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