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# 1. Conversion programs NanoScope (NS) into VRML

These programs convert ASCII files, created by the function “ASCII Export” of the program NS, into VRML files. They are written on Perl language. It is necessary to install ActivePerl on the computer for running programs.

## 1.1. asc2vrml.pl

This program was created by former co-worker.

For starting this program in the MS-DOS command line the following must be written:

*C:/[path]/asc2vrml.pl INFILE Z-factor (Z-factor optional)*

**INFILE** - NS file save as ASCII-file by option “ASCII Export” with “Number of Columns”=**8**, because “Number of Columns” by default = size of image.

**Z-factor** – default 1, for increase Z scale point number more 1, for decrease – less 1 (for example, if Z-factor will be 0.5, it will be 50% Z scale). Z-factor parameter saves as a comment “\# Scale\_fact:” in the \*.wrl file.

This program does not work with ASCII data, which consist of more than 8 columns, creates big VRML files, needs farbcode.pl and farbcodes.txt programs.

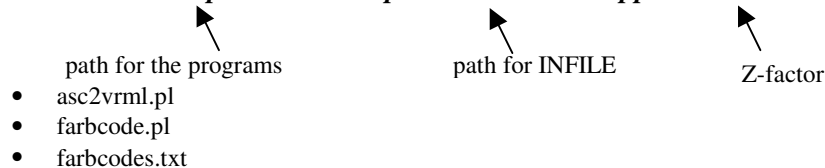
**NB!** Files farbcode.pl and farbcodes.txt should be in the same directory, as main program – asc2vrml.pl. Otherwise it will reduce in an error (“Farbcodes nicht gefunden”)

Example command line

*C:/user/asc2vrml.pl c:/user/data/kaupp1l.asc 3*

*or*

*C:/user/perl asc2vrml.pl c:/user/data/kaupp1l.asc 3*



## 1.2. ASC.pl

For starting this program in the MS-DOS command line the following must be written:

*C:/[path]/ASC.pl INFILE Z-factor (Z-factor optional)*

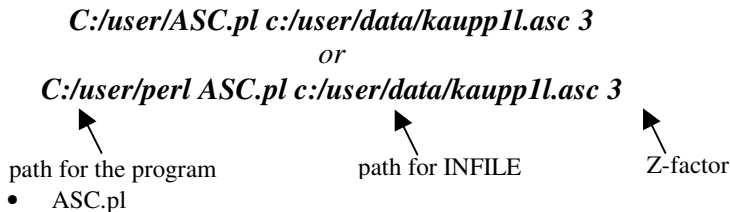
**INFILE** - NS file save as ASCII-file by option “ASCII Export” with “Number of Columns”=**8**, because “Number of Columns” by default = size of image.

**Z-factor** – default 1, for increase Z scale point number more 1, for decrease – less 1 (for example, if Z-factor will be 0.5, it will be 50% Z scale). Z-factor parameter saves as a comment “\# Scale\_fact:” in the \*.wrl file for saving the information about manufactured data modification for further conversion.

This program does not work with ASCII data, which consist of more than 8 columns.

**NB!** This program does not need padding programs, such as farbcode.pl and farbcodes.txt

Example command line



### 1.3. ASC2.pl

For starting this program in the MS-DOS command line the following must be written:

*C:/ [path]/ASC2.pl INFILE Z-factor (Z-factor optional)*

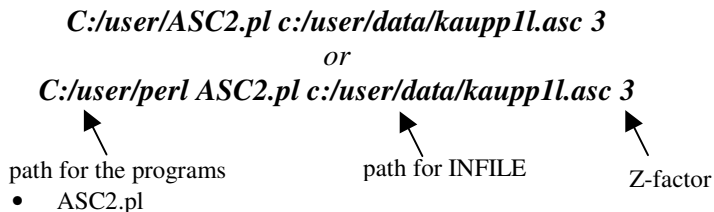
**INFILE** - NS file save as ASCII-file by option “ASCII Export”.

**Z-factor** – default 1, for increase Z scale point number more 1, for decrease – less 1 (for example, if Z-factor will be 0.5, it will be 50% Z scale). Z-factor parameter saves as a comment “*# Scale\_fact:*” in the \*.wrl file for saving the information about manufactured data modification for further conversion.

This program works with ASCII data, which consist of any quantity of columns.

**NB!** This program does not need padding programs, such as farbcode.pl and farbcodes.txt

Example command line



### 1.4. ASC3.pl

This program create VRML files, which have block style of image. It is means that all sides of surface is closed.

For starting this program in the MS-DOS command line the following must be written:

*C:/ [path]/ASC3.pl INFILE Z-factor (Z-factor optional)*

**INFILE** - NS file save as ASCII-file by option “ASCII Export”.

**Z-factor** – default 1, for increase Z scale point number more 1, for decrease – less 1 (for example, if Z-factor will be 0.5, it will be 50% Z scale). Z-factor parameter saves as a comment “*# Scale\_fact:*” in the \*.wrl file for saving the information about manufactured data modification for further conversion.

This program works with ASCII data, which consist of any quantity of columns.

**NB!** This program does not need padding programs, such as farbcode.pl and farbcodes.txt

Example command line

*C:/user/ASC3.pl c:/user/data/kaupp11.asc 3*  
or  
*C:/user/perl ASC3.pl c:/user/data/kaupp11.asc 3*

↑ path for the program  
• ASC3.pl

↑ path for INFILE

↑ Z-factor

## 2. Conversion program WSxM into VRML

This program convert \*.stp files, created by the function “*SPM processed Files (.stp)*” of the program WSxM, into VRML files. It is written on C++ language.

### 2.1. stp2vrml1.1.exe

For starting this program in the MS-DOS command line the following must be written:

*C:/ [path]/stp2vrml1.1.exe input\_file\_name output\_file\_name(without extension)*

**input\_file\_name** - file save as \*.stp file by option “*SPM processed Files (.stp)*” or original \*.stp file of WSxM.

**output\_file\_name** – name of output file, as like, but without extension, because it will be automatically \*.wrl.

During execution of the program the following question will be preset to you:

“*Enter scale factor (Without scaling: 1):*” Here you should point out Z-factor, if you do not want to scale image – point 1.

Example command line

*C:/user/stp/stp2vrml1.1.exe c:/user/kaupp11.stp c:/user/kaupp11*

↑ path for the program  
• stp2vrml1.1.exe

↑ path for input file

↑ path for output file

## 3. Conversion program WSxM into NS

This program convert \*.stp files, created by the function “*SPM processed Files (.stp)*” of the program WSxM, into ASCII files of NS, which can be open by option “*ASCII Import*” NS software. It is written on C++ language.

### 3.1. stp2asc.exe

For starting this program in the MS-DOS command line the following must be written:

*C:/ [path]/stp2asc.exe input\_file\_name output\_file\_name(without extension)*

**input\_file\_name** - file save as \*.stp file by option “*SPM processed Files (.stp)*” or original \*.stp file of WSxM.

**output\_file\_name** – name of output file, as like, but without extension, because it will be automatically \*.wrl.

During execution of the program the following question will be preset to you:

“*Enter scale factor (Without scaling: 1):*” Here you should point out Z-factor, if you do not want to scale image – point 1.

Example command line

*C:/user/stp/stp2vrml1.1.exe c:/user/kaupp11.stp c:/user/kaupp11*

↑ path for the program  
• stp2asc.exe

↑ path for input file

↑ path for output file

## 4. Conversion program SPIP into VRML

This program convert \*.asc files, created by the function “Save as ...ASCII (\*.asc)” of the SPIP software, into VRML files. It is written on Perl language. It is necessary to install ActivePerl on the computer for running programs.

### 4.1. bcr.pl

For starting this program in the MS-DOS command line the following must be written:

*C:/ [path]/bcr.pl INFILE Z-factor (Z-factor optional)*

**INFILE** - SPIP file save as ASCII-file by option “Save as ...ASCII (\*.asc)”.

**Z-factor** – default 1, for increase Z scale point number more 1, for decrease – less 1 (for example, if Z-factor will be 0.5, it will be 50% Z scale). Z-factor parameter saves as a comment “\# Scale\_fact:” in the \*.wrl file for saving the information about manufactured data modification for further conversion.

Example command line

*C:/user/bcr.pl c:/user/data/kaupp11.asc 3*

or

*C:/user/perl bcr.pl c:/user/data/kaupp11.asc 3*

↑ path for the program  
• bcr.pl

↑ path for INFILE

↑ Z-factor

## 5. Conversion program VRML(SPIP) into NS

This program convert \*.wrl VRML files, created by conversion program bcr.pl, into ASCII files of NS, which can be open by option “ASCII Import” NS software. It is written on Perl language. It is necessary to install ActivePerl on the computer for running programs.

### 5.1. bcr\_vrml\_asc.pl

For starting this program in the MS-DOS command line the following must be written:

*C:/ [path]/bcr\_vrml\_asc.pl INFILE*

**INFILE** - \*.wrl file (VRML) received by conversion program bcr.pl.

Example command line

*C:/user/bcr\_vrml\_asc.pl c:/user/data/kaupp11.wrl*

or

*C:/user/perl bcr\_vrml\_asc.pl c:/user/data/kaupp11.wrl*

↑ path for the program  
• bcr\_vrml\_asc.pl

↑ path for INFILE

## 6. Conversion programs DME into NS

These programs convert \*.asc files, created by program rsexport.exe (DME software), into ASCII files of NS, which can be open by option “ASCII Import” NS software. They are written on Perl language. It is necessary to install ActivePerl on the computer for running programs.

### 6.1. spm2asc1.4.pl

For starting this program in the MS-DOS command line the following must be written:

*C:/ [path]/spm2asc1.4.pl INFILE*

**INFILE** - DME file save as ASCII-file by program rsexport.exe.

**NB!** This program work only with AFM data.

Example command line

*C:/user/spm2asc1.4.pl c:/user/data/kaupp1l.asc*  
or  
*C:/user/perl spm2asc1.4.pl c:/user/data/kaupp1l.asc*

↑ path for the program  
• spm2asc1.4.pl

↑ path for INFILE

### 6.2. spm2asc1.5.pl

For starting this program in the MS-DOS command line the following must be written:

*C:/ [path]/spm2asc1.5.pl INFILE*

**INFILE** - DME file save as ASCII-file by program rsexport.exe.

**NB!** This program work both with AFM data and STM data.

Example command line

*C:/user/spm2asc1.5.pl c:/user/data/kaupp1l.asc*  
or  
*C:/user/perl spm2asc1.5.pl c:/user/data/kaupp1l.asc*

↑ path for the program  
• spm2asc1.5.pl

↑ path for INFILE

## 7. Conversion programs Glacier into VRML

These programs convert \*.dgm Glacier files into ASCII files of NS, which can be open by option “ASCII Import” NS software. They are written on Perl language. It is necessary to install ActivePerl on the computer for running programs.

## 7.1. Glacier.pl

For starting this program in the MS-DOS command line the following must be written:

***C:/ [path]/Glacier.pl INFILE***

**INFILE** - \*.dgm Glacier file.

**NB!** If it is necessary to view surface with texture on it, change the following line in the program:

```
appearance Appearance {  
    texture ImageTexture { url\file:///C:/User/map.jpg\  
    textureTransform TextureTransform { scale 1 -1 }  
}
```

for point out the path of the texture file or directly in the output \*.wrl file. The texture can be visible only by ParallelGraphics Contona viewer.

Have not possibility to use Z-factor.

Example command line

```
C:/user/Glacier.pl c:/user/data/ver99_100m.dgm  
or  
C:/user/perl Glacier.pl c:/user/data/ver99_100m.dgm
```

↑ path for the program  
• Glacier.pl

↑ path for INFILE

## 7.2. Glacier1.pl

For starting this program in the MS-DOS command line the following must be written:

***C:/ [path]/Glacier1.pl INFILE Z-factor (Z-factor optional)***

**INFILE** - \*.dgm Glacier file.

**Z-factor** – default 1, for increase Z scale point number more 1, for decrease – less 1 (for example, if Z-factor will be 0.5, if will be 50% Z scale). Z-factor parameter saves as a comment “*# Scale\_fact:*” in the \*.wrl file for saving the information about manufactured data modification for further conversion.

**NB!** If it is necessary to view surface with texture on it, change the following line in the program:

```
appearance Appearance {  
    texture ImageTexture { url\file:///C:/User/map.jpg\  
    textureTransform TextureTransform { scale 1 -1 }  
}
```

for point out the path of the texture file or directly in the output \*.wrl file. The texture can be visible only by ParallelGraphics Contona viewer.

Have possibility to use Z-factor.

Example command line

```
C:/user/Glacier1.pl c:/user/data/ver99_100m.dgm 3  
or  
C:/user/perl Glacier1.pl c:/user/data/ver99_100m.dgm 3
```

↑ path for the program  
• Glacier1.pl

↑ path for INFILE

↑ Z-factor

## 8. Conversion programs Glacier\_VRML into NS

These programs convert \*.wrl VRML files, created by conversion program Glacier.pl and Glacier1.pl, in ASCII files of NS, which can be open by option "ASCII Import" NS software. They are written on Perl language. It is necessary to install ActivePerl on the computer for running programs.

### 8.1. GlacierVrml.pl

For starting this program in the MS-DOS command line the following must be written:

*C:/ [path]/Glacier.pl INFILE*

**INFILE** - \*.wrl file (VRML) received by conversion program Glacier.pl.

**NB!** Use only for files, which were created by program Glacier.pl, because there is no possibility receiving parameter Z-factor from \*.wrl files. Original data in this case can be lost.

Example command line

*C:/user/GlacierVrml.pl c:/user/data/ver99\_100m.wrl*  
or  
*C:/user/perl GlacierVrml.pl c:/user/data/ver99\_100m.wrl*

↑ path for the program  
• GlacierVrml.pl

↑ path for INFILE

### 8.2. GlacierVrml1.pl

For starting this program in the MS-DOS command line the following must be written:

*C:/ [path]/Glacier.pl INFILE*

**INFILE** - \*.wrl file (VRML) received by conversion program Glacier1.pl.

**NB!** Use only for files, which were created by program Glacier1.pl, because there is no information about parameter Z-factor from \*.wrl files, if the conversion was made by Glacier.pl. Original data in this case can be lost.

Example command line

*C:/user/GlacierVrml1.pl c:/user/data/ver99\_100m.wrl*  
or  
*C:/user/perl GlacierVrml1.pl c:/user/data/ver99\_100m.wrl*

↑ path for the program  
• GlacierVrml1.pl

↑ path for INFILE

## 9. Conversion programs VRML into NS

These programs convert \*.wrl VRML files, created by conversion programs asc2vrml.pl, ASC.pl, ASC2.pl, ASC3.pl, sii2vrml.exe, into ASCII files of NS, which can be open by option "ASCII Import" NS software. They are written on Perl language. It is necessary to install ActivePerl on the computer for running programs.



## 9.1. vrml2asc.pl

This program was created by former co-worker.

For starting this program in the MS-DOS command line the following must be written:

*C:/ [path]/vrml2asc.pl INFILE [Z-factor]*

**INFILE** - \*.wrl file (VRML) received by conversion programs asc2vrml.pl, ASC.pl, ASC2.pl ASC3.pl, sii2vrml.exe.

**Z-factor** – default 1, for increase Z scale point number more 1, for decrease – less 1 (for example, if Z-factor will be 0.5, it will be 50% Z scale).

**NB!** Have not possibility to receive parameter Z-factor from comments of \*.wrl files. Original data in this case can be lost.

Example command line

*C:/user/vrml2asc.pl c:/user/data/kaupp1l.wrl*  
or  
*C:/user/perl vrml2asc.pl c:/user/data/kaupp1l.wrl*

↑ path for the program  
• vrml2asc.pl

↑ path for INFILE

## 9.2. Vrml.pl

For starting this program in the MS-DOS command line the following must be written:

*C:/ [path]/Vrml.pl INFILE [Z-factor]*

**INFILE** - \*.wrl file (VRML) received by conversion programs asc2vrml.pl, ASC.pl, ASC2.pl ASC3.pl.

**Z-factor** – default 1, for increase Z scale point number more 1, for decrease – less 1 (for example, if Z-factor will be 0.5, it will be 50% Z scale).

**NB!** Have possibility to receive parameter Z-factor from comments of \*.wrl files. Original data in this case can be save.

Example command line

*C:/user/Vrml.pl c:/user/data/kaupp1l.wrl*  
or  
*C:/user/perl Vrml.pl c:/user/data/kaupp1l.wrl*

↑ path for the program  
• Vrml.pl

↑ path for INFILE

# 10. Conversion program Seiko into VRML

This program converts Seiko files into VRML files, which can be opened by option “ASCII Import” NS software. It is written on C++ language.

## 10.1. sii2vrml.exe

This program was created by former co-worker.

For starting this program in the MS-DOS command line the following must be written:

*C:/[path]/sii2vrml.exe [options] infile [outfile]*

**Options:**

**scale** <percent> - Scale height values. Default: 100

**res** <x> <y> - Interpolate resolution to x, y

**reduct** <factor> - Reduce resolution in x and y direction with given factor

**reductx** <factor> - Reduce resolution in x direction with given factor

**reducty** <factor> - Reduce resolution in y direction with given factor

The reduct-options are just another mean to change the resolution

The factors can be given in floating point notation!

**infile** – name of Seiko file.

**outfile** – name of output file, as like, but with extension \*.wrl.

Example command line

*C:/user/sii2vrml.exe c:/user/crater.xqt c:/user/crater.wrl*

path for the program  
• sii2vrml.exe

path for input file

path for output file