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The following data set is provided for academic purposes only. Any publications using this data set must reference (1) this data archive and/or (2) any of the publications listed below. This data set is not to be used for commercial purposes.

Contact Information

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General comments

1. This data set was acquired to during the following PhD research program. The core of this data archive is 3D image files. These files can be opened using Matlab or an open source software (Meshlab).
2. Each text file contains a measurement along the X, Y, and Z-axis. These measurements are in mm. A light intensity measurement is included. This measurement is 8bit with 256 values.
3. For each image, the laser scanner was geo-referenced (strike, dip). This will allow the user to geo-reference the data. The geo-referencing data is available below.

Data Information

Name: Ivy Lea data set

Date: May 18, 2007

Description: Above ground road cut at Ivy Lea, Ontario

Associated publications: #1, #3

Data:

- 6 files entitled IvyLea_003 to IvyLea_008
- 1 photo (IvyLea_Rockface.jpg) of rock face

Orientation of laser scanner/Georeferencing information

IvyLea_003	Top Centre	strike=195, dip=-10
IvyLea_004	Top Right	strike=215, dip=-10
IvyLea_005	Top Left	strike=175, dip=-10

Name: Sudbury data set

Date: August 31, 2007

Description: Underground at Vale mine, Sudbury Ontario

Associated publications: #1, #2, publication pending.

Data:

- 6 files of Site 1: Sudbury1_006-011
- 6 files of Site 2: Sudbury2_012-017
- Sudbury2 can be merged with Sudbury1, both sets taken from single location
- 2 files of Site 3: Sudbury3_030-031

Orientation of laser scanner/Georeferencing information

Sudbury1_006 strike=174, dip=00
Sudbury1_007 strike=146, dip=00
Sudbury1_008 strike=146, dip=18
Sudbury1_009 strike=167, dip=18
Sudbury1_010 strike=187, dip=18
Sudbury1_011 strike=187, dip=0

Sudbury2_012 strike=127, dip=00
Sudbury2_013 strike=108, dip=00
Sudbury2_014 strike=108, dip=18
Sudbury2_015 strike=126, dip=18
Sudbury2_016 strike=128, dip=39
Sudbury2_017 strike=109, dip=39

Sudbury3_030 strike=068, dip=08
Sudbury3_031 strike=068, dip=0

Name: Thompson data set

Date: December 10-12, 2009

Description: Underground at Vale mine, Thompson Manitoba

Associated publications: #1, #2.

Data:

- 14 files of Site 1: Thompson1_001-0014
Laser scanner moved along drift
- 7 files of Site 2: Thompson2_001-007
Laser scanner moved along drift

Orientation of laser scanner/Georeferencing information

Thompson1_001 strike=322,
Thompson1_002 strike=322, dip=-09
Thompson1_003 strike=314, dip=-11
Thompson1_004 strike=314,
Thompson1_005 strike=324, dip=-01
Thompson1_006 strike=324,
Thompson1_007 strike=324, dip=-12
Thompson1_008 strike=324,
Thompson1_009 strike=329, dip=04
Thompson1_010 strike=329, dip=-11
Thompson1_011 strike=337, dip=-10

Thompson1_012	strike=337, dip=04
Thompson1_013	
Thompson1_014	
Thompson2_001	strike=164, dip=-16
Thompson2_002	strike=150, dip=-16
Thompson2_003	strike=164, dip=-16
Thompson2_004	
Thompson2_005	
Thompson2_006	strike=172, dip=-16
Thompson2_007	strike=178, dip=-16

Publications

1. Mah, J. 2012. PhD Thesis: Three-Dimensional Laser Imaging for Rock Mass Characterization. Carleton University.
<https://curve.carleton.ca/system/files/theses/31288.pdf>
2. Mah, J., Samson, C., McKinnon, S., and Thibodeau, D. 2013. 3D laser imaging for surface roughness analysis. *Int. J. of Rock Mechanics and Mining Sciences*, 58: 111-117;
doi: 10.1016/j.ijrmms.2012.08.001.
3. Mah, J., Samson, C., and McKinnon, S. 2011. 3D laser imaging for joint orientation analysis. *Int. J. of Rock Mechanics and Mining Sciences* 48(6): 932-941;
doi: 10.1016/j.ijrmms.2011.04.010.
4. MeshLab, <http://meshlab.sourceforge.net/>