3D Transformations

```
pose_invert.hdev

pose_compose.hdev
```

Object Model 3D

```
set_object_model_3d_attrib.hdev
      set_object_model_3d_attrib(_mod)
      visualize_object_model_3d
      gen_plane_object_model_3d
      distance_object_model_3d

gen_primitives_object_model_3d.hdev

select_object_model_3d.hdev
      xyz_to_object_model_3d
      prepare_object_model_3d
      select_points_object_model_3d
      connection_object_model_3d
      volume_object_model_3d_relative_to_plane
      max_diameter_object_model_3d
      affine_trans_object_model_3d
      select_object_model_3d
```

Camera Calibration

```
camera_calibration_multi_image.hdev
      gen_cam_par_area_scan_division
      create_calib_data
      set_calib_data_cam_param
      set_calib_data_calib_object
      find_calib_object
      get_calib_data_observ_contours
      get_calib_data_observ_points
      calibrate_cameras
      get_calib_data
      set_origin_pose
      image_points_to_world_plane

check_calib_image_quality.hdev
```

Stereo Reconstruction: Calibration

```
calibrate_cameras_multiple_camera_setup.hdev
      get_calib_data
            'camera_setup_model'
            'reference_camera'
            'calib_obj_pose'
            'params_labels'
      set_camera_setup_param
            'coord_transf_pose'
```

```
      get_camera_setup_param
            'params'
            'pose'

stereo_calibration.hdev
```

Stereo Reconstruction: Binocular

```
disparity_image_to_xyz.hdev
      gen_binocular_rectification_map
      map_image
      binocular_disparity
      disparity_image_to_xyz
      xyz_attrib_to_object_model_3d
```

Stereo Reconstruction: Multi-View

```
locate_pipe_joints_stereo.hdev
      create_camera_setup_model
      create_stereo_model
      set_stereo_model_param
      reconstruct_surface_stereo
```

Shape-Based Matching

```
create_shape_model_3d_lowest_model_level.hdev
      read_shape_model_3d
      read_object_model_3d
      prepare_object_model_3d
      create_shape_model_3d
      find_shape_model_3d
      project_shape_model_3d
```

Surface-Based Matching

```
find_surface_model.hdev
      decompose3 + threshold + connection
      create_surface_model
      find_surface_model
      get_surface_matching_result

locate_pipe_joints_stereo.hdev

debug_find_surface_model.hdev
      create_surface_model
            'train_3d_edges'
      debug_find_surface_model
```