New Features of CadnaR version 2019 MR2 (incl. MR1)

The list of new features offered by **CadnaR** is subdivided into the following sections:

- Calculation/Configuration
- **CadnaR**-Objects
- Further New Features
- Miscellaneous
- Import/Export
- **CadnaR**-Options

Please note that some of the new features may require the appropriate **CadnaR** option.

The new features of 2019 MR1 are in Italics.

Calculation/Configuration

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CadnaR-Objects

- vertical PolyMesh: now offering a shape editor enabling hole patterns inside (for example, doors or windows), shape editor using local coordinates u, v.
- vertical area source: may now consist of several segments (with lower/upper height at each polygon point)
- contour line: may now be a closed polygon, consisting of at least 3 points
- barrier, vertical area sources: may be converted to vertical PolyMeshes (n objects from n segments)
- vertical area source: new action/command **Break into Pieces** and **Connect Lines** (same as for barrier)
- barrier, vertical area source, vertical PolyMesh: using action/command **Duplicate** in z-direction now considers the minimum height zmin.
- *new object - vertical poly mesh: screening object with arbitrary lower and upper edge, which also may contain openings.*
- *barrier: may now consist of several segments (with lower/upper height at each polygon point, enabling to define inclined lower and upper edges (for particle model, for image source calculations: inclined edges are ignored, rectangular segments are treated as individual barriers)*
- *polygon objects: dialog/action Modify Attribute offering new height attributes (HA, HE)*
- *Polygon Point dialog (via Polygon: Geometry dialog): Z coordinate gets grayed out with interpolated heights (i.e. heights not entered)*

Further New Features

- 3D View (**Camera** menu): alternative control of the camera using arrow keys + mouse from the ego-perspective (retaining camera position and orientation)

- 3D View: new option "Show Room" (normal, floor only, off), shortcut SHIFT + W
- **Modify Objects** dialog, **Modify Attribute**: With several object types selected, the common attributes are now displayed on the "Attribute" list box.
- global library **Absorptions**: now with English translations (if required, copy via the library manager from default to global)
- ObjectTree: when displaying deactivated ObjectTree groups now makes use of the settings for the object type "(deactivated)".
- ObjectTree: non-visible ObjectTree groups can no longer be selected with the mouse.
- **Delete grid/voxel grid** commands: SHIFT key deletes the grid of current variant, CTRL key: as before + reset to default grid spacing
- *dialog/action **Modify Attribute**: now with describing text for attributes*
- ***Generate Label** dialog: offering save/load of presets and descriptive texts in brackets for common attributes*
- ***Tables** menu, context menu: command **Delete** while holding down the CTRL key removes all datasets after confirmation prompt*
- ***Tables** menu, **Scattering** (local/global): command "Modify Spectrum" (via context menu) offers to generate a scattering spectrum from an entered roughness K (resulting scattering coeff. at 1 kHz = entered roughness value)*
- *dialog **Library: Color Palette** (local/global): new button "Individual" enables to define classes individually (specification of lower/upper limits, class width, taking into account the actual number of colors of the color palette, adjusting the value range of the existing classes)*
- ***Grid Appearance** dialog: direct access to currently selected local color palette (enabling direct editing)*

Miscellaneous

- consistency check: checking the lower object heights zmin, whether they are inside the room.
- consistency check: check for too short segment lengths of line sources (warning, if at least 0.5% of the total length is invalid)
- *Consistency Check: With syntax errors occurring in references to spectra of objects the attribute is specified in the message (ALFAL, ALFAR, STREUL, STREUR, TRANSL, TEMI)*
- *Consistency Check: validity check for ID when selecting library spectra (sound power, absorption, scattering, sound reduction, product)*
- *Consistency Check: extended validity check for ID for selected library spectra (e.g. ID starting with a figure)*
- *Consistency Check: error message remains 2 min. by default, timeout can be set in seconds via CADNAR.INI file (section [CadnaR], Warning Timeout = 5, default 120 s, min 2 s, max 3600 s)*

Import/Export

- Import Sketchup (Import Options): Holes in imported PolyMeshes are stored as embedded contour lines.
- *Import Sketchup (import options): optional transfer of object color and opacity from the Sketchup model*

- *Import Sketchup (import options): optional generation of scattering spectra with material names (analogous to absorption spectra)*
- *Import Sketchup (Import options): Sketchup layer name is written to a string variable of the imported object*
- *Import Sketchup (import options): invisible objects and layers in SketchUp can be skipped during import*
- *DXF export: for vertical area sources, box-type obstacles and box-type sources now exports the entire 3D object (as triangles, not just the top edge)*
- *DXF export: new object types for export: barrier, PolyMesh, receiver chain, receiver, height point, contour line and calculation area*

CadnaR-Options

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