

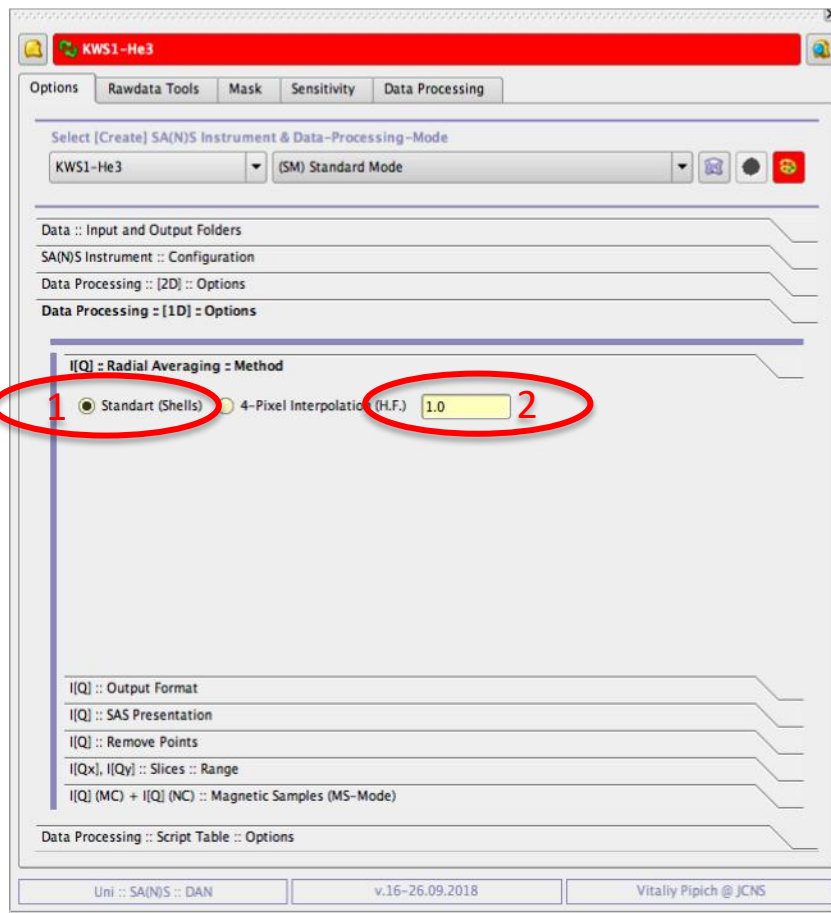
# 1D binning of radial averaged datasets (in DAN & DANP)

15.10.2018

27.04.2020

::DAN::

# Geometrical-progression Q-binning (during data reduction)



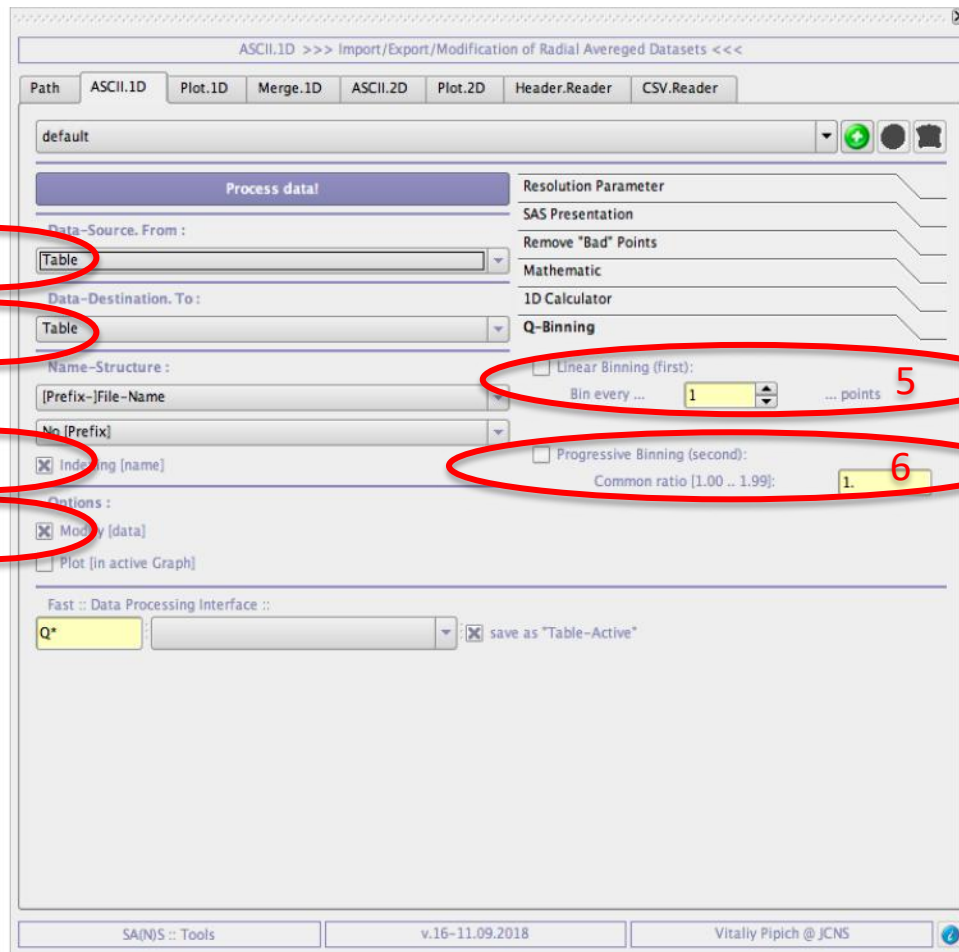
During radial averaging 1D-datasets  
could be binned progressively in Q:

Just in Options/Data Processing :: [1D]...  
Set factor of geometrical regression above 1 (see 2)

- 1: Standard (Shells) method should be selected;
- 2: Factor of geometrical regression above 1.00

# ::DANP::

## Linear & Geometrical Q-binning (after data reduction)



After radial averaging: 1D-datasets (in Tables or Files ) could be binned linearly and progressively in Q within DANP/ASCII.1D interface:

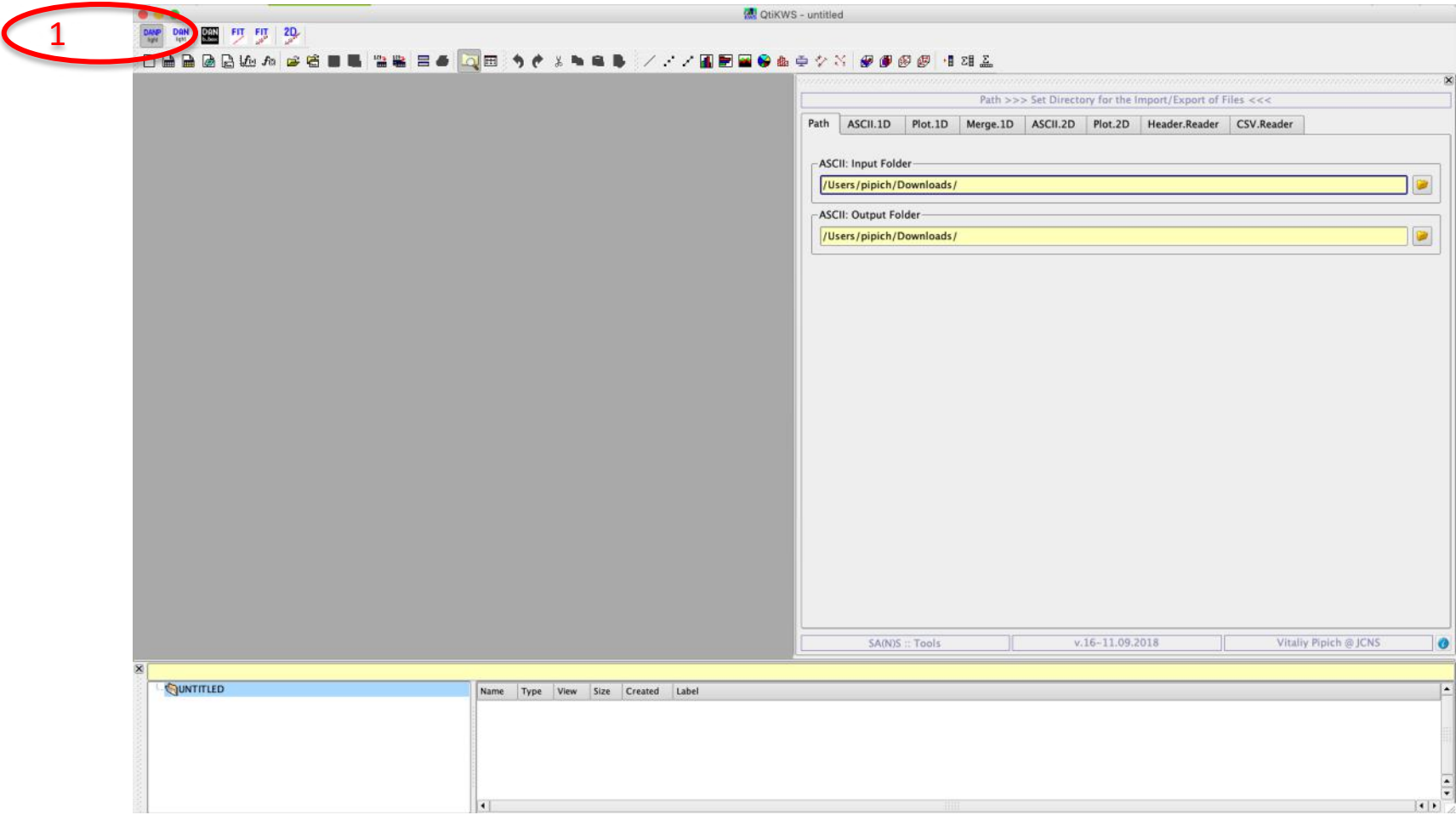
- 1: Source of data (from Table or File);
- 2: Method of saving of binned datasets (to Table or File);
- 3: Indexing of result Tables or Files (if not checked they will be overwritten);
- 4: Check box to activate actions with selected Files/Tables (binning is an action of actions);
- 5: Linear binning interface;
- 6: Progressive binning interface

To start actions push button **“Process data!”**

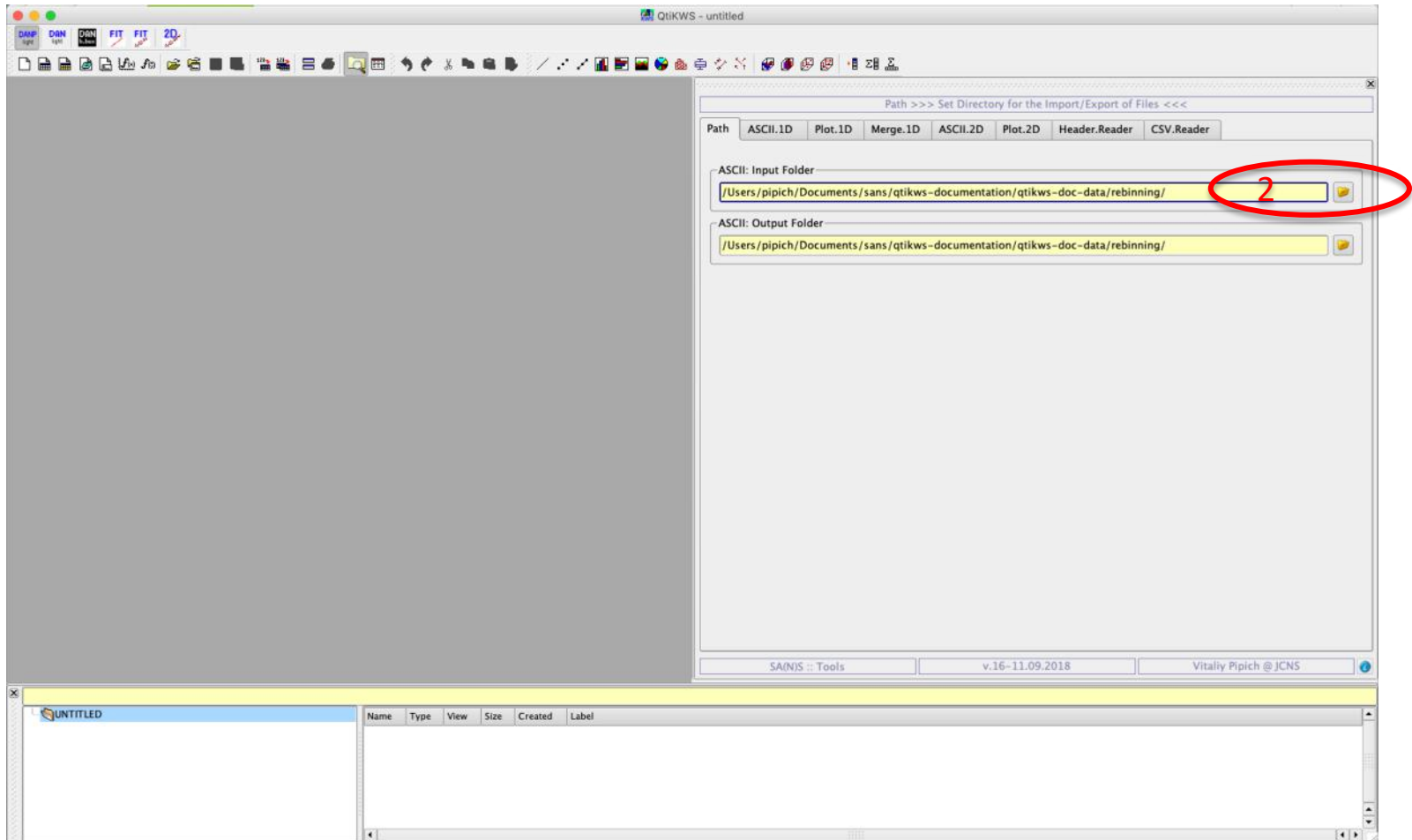
Q-Rebinning in DANP

# **STEP-BY-STEP EXAMPLE**

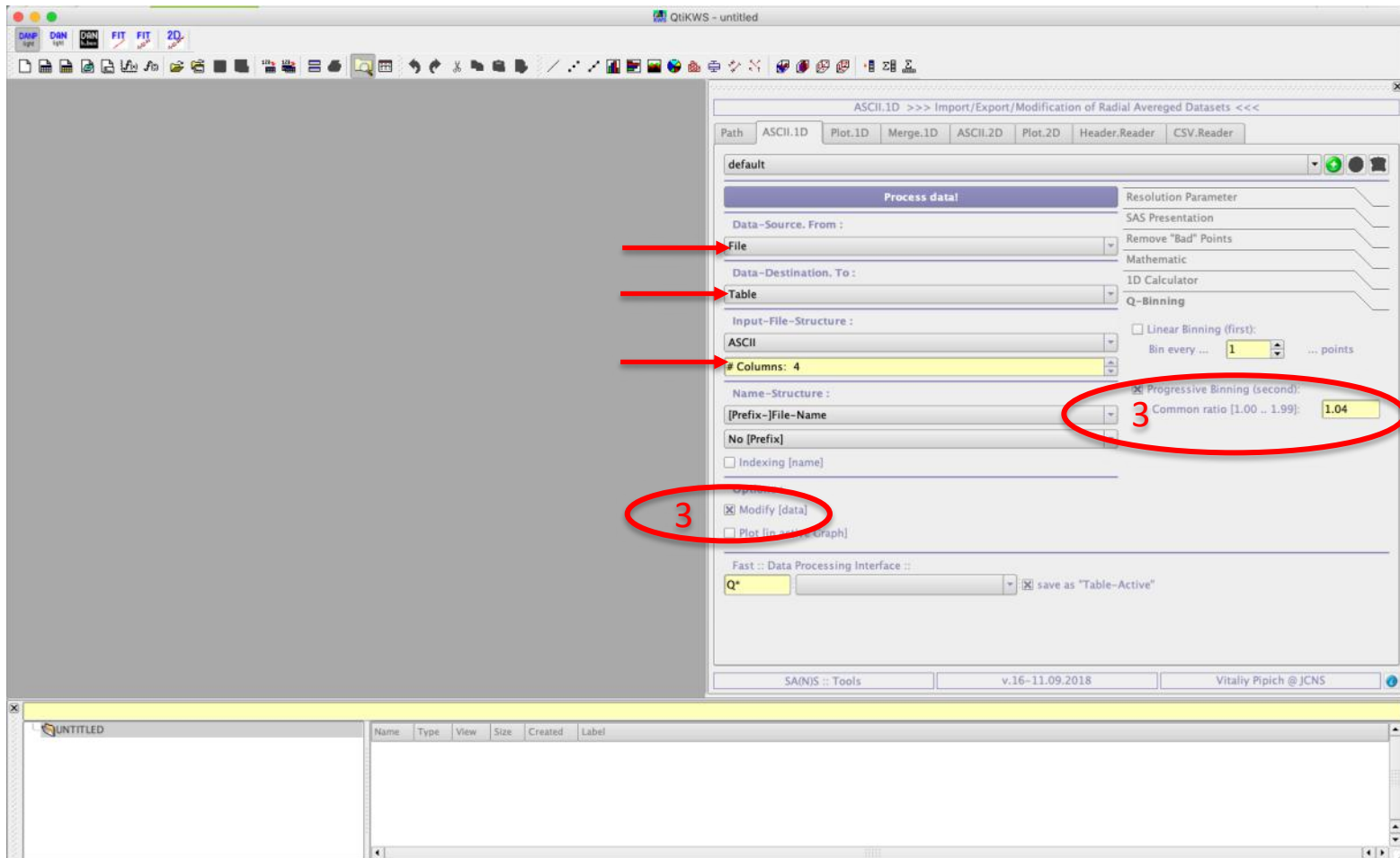
# Step 01: open DANP



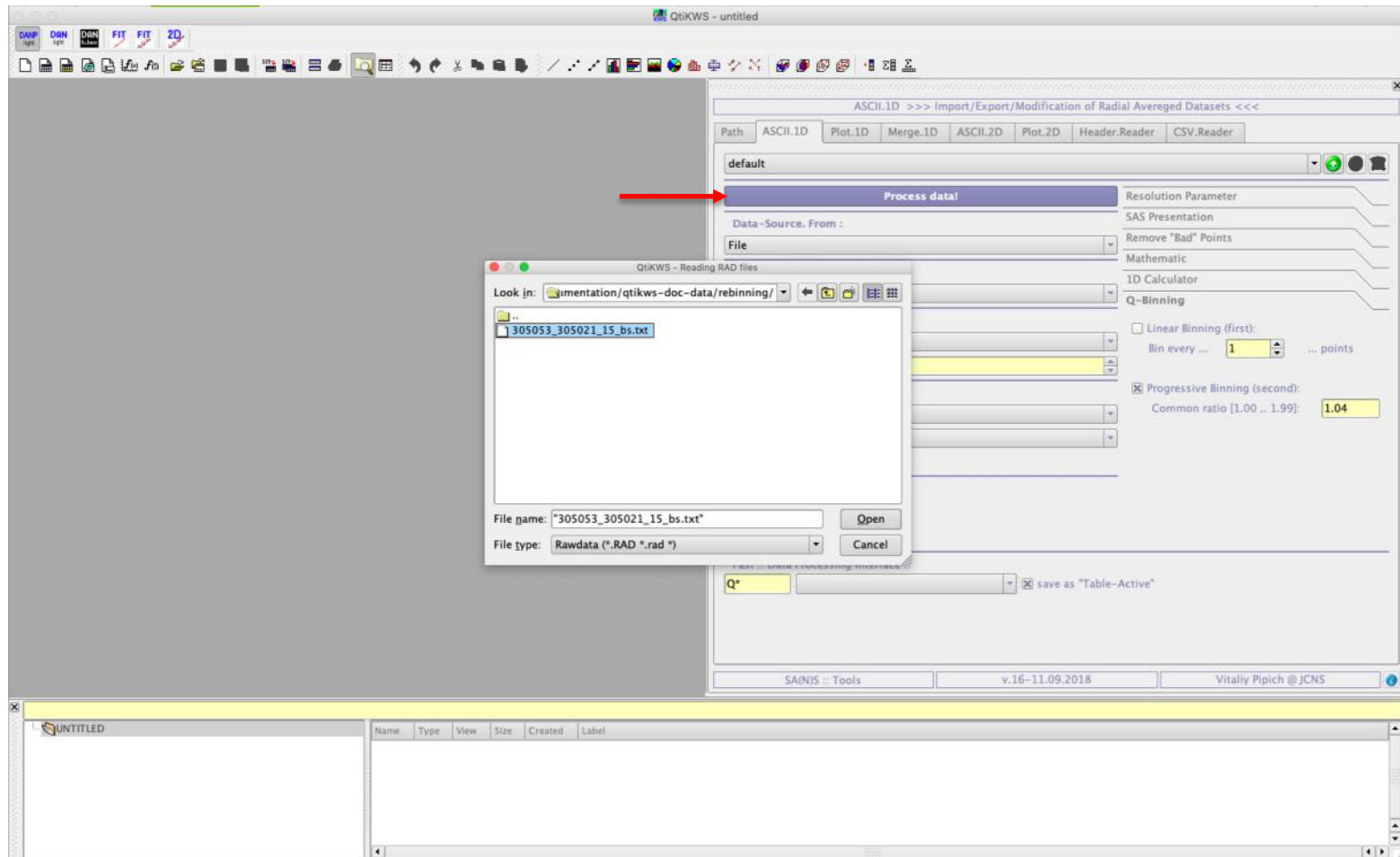
# Step 02: set PATH to your data



# Step 03: select options in ASCII.1d

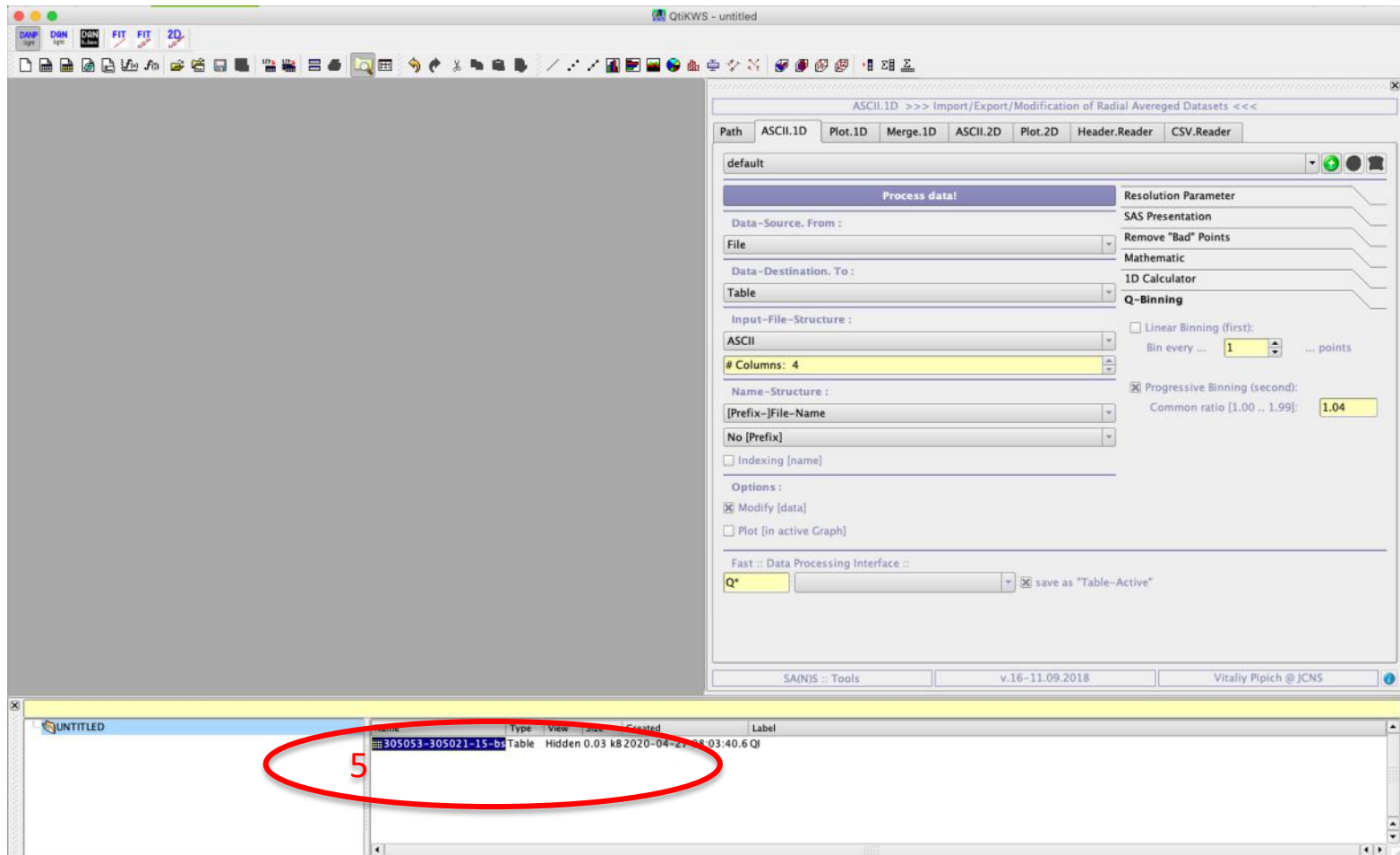


# Step 04: select files pushing button „Process Data“





# Step 05: find your table(s) in Project Explorer



# Step 06: activating a Table

The screenshot displays the QtiKWS software interface. The main window shows a table with columns labeled Q[X], I[Y], dI[yEr], and Sigma[xEr]. The table contains 64 rows of numerical data. On the right side, a configuration panel titled 'ASCII.1D >>> Import/Export/Modification of Radial Averaged Datasets <<<' is open. This panel has several tabs: Path, ASCII.1D, Plot.1D, Merge.1D, ASCII.2D, Plot.2D, Header.Reader, and CSV.Reader. The 'ASCII.1D' tab is active. The configuration options include:

- Process data!** (checkbox checked)
- Data-Source. From:** File
- Data-Destination. To:** Table
- Input-File-Structure:** ASCII
- # Columns:** 4
- Name-Structure:** [Prefix]-File-Name
- No [Prefix]** (checkbox checked)
- Options:**  Modify [data],  Plot [in active Graph]
- Resolution Parameter:** SAS Presentation
- Remove "Bad" Points:** (checkbox checked)
- Mathematic:** ID Calculator
- Q-Binining:**  Linear Binning (first): Bin every ... 1 ... points;  Progressive Binning (second): Common ratio [1.00 .. 1.99]: 1.04
- Fast :: Data Processing Interface ::**  save as "Table-Active"

At the bottom of the window, a file manager shows a table named '305053-305021-15-bs' with a size of 0.03 kB, created on 2020-04-27 at 08:03:40.6 QI.

# Step 07: plotting a Table

The screenshot displays the QtiKWS software interface. The main window shows a log-log plot titled "I vs. Q". The y-axis is labeled "I (cm<sup>-2</sup>)" and ranges from 10<sup>-2</sup> to 10<sup>0</sup>. The x-axis is labeled "q (Å<sup>-1</sup>)" and ranges from 10<sup>-2</sup> to 10<sup>-1</sup>. The plot shows a series of black dots representing data points, which form a curve that starts at a high intensity and decreases as q increases. A legend in the plot area identifies the data as "305053-305021-15-bs\_I".

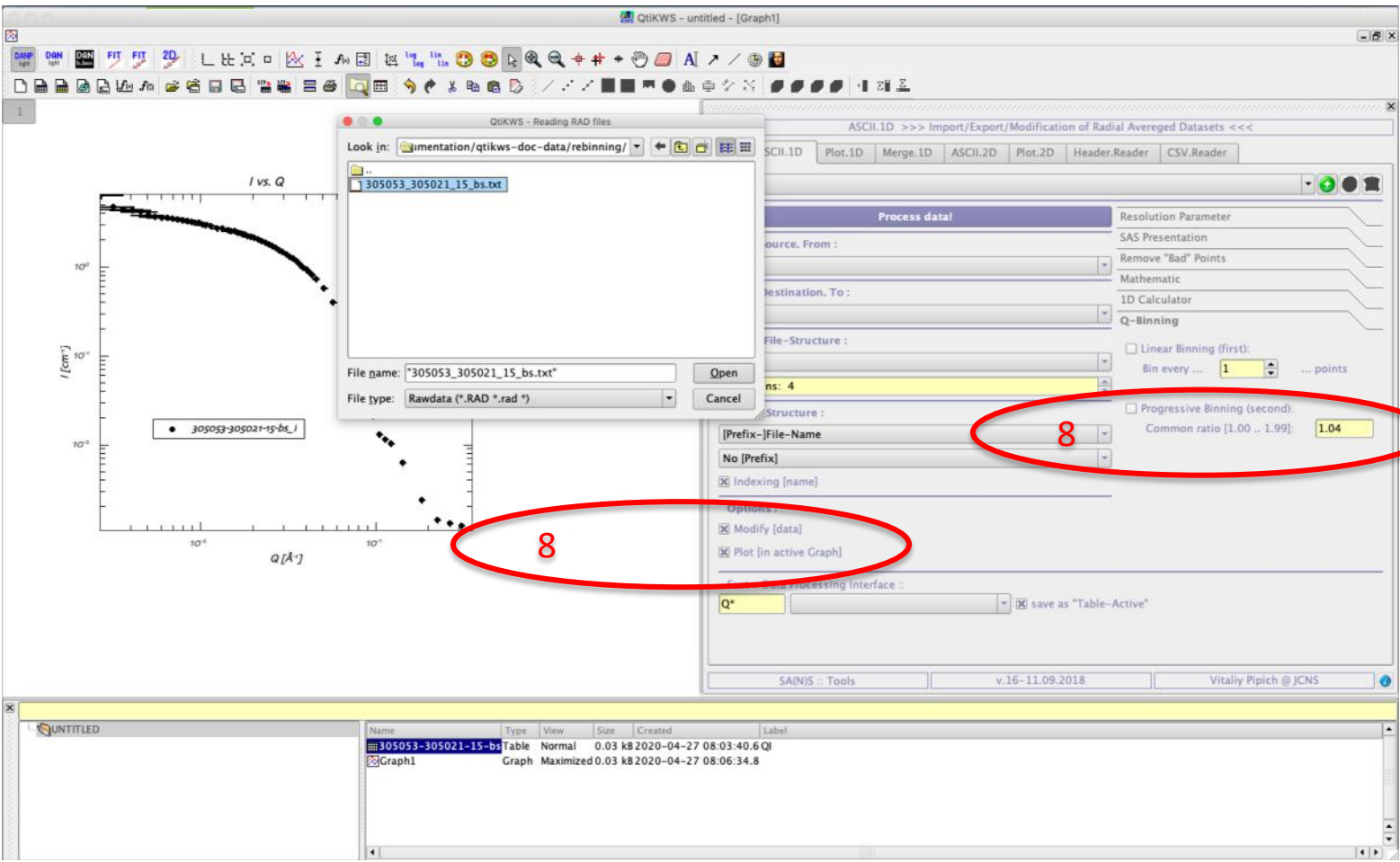
On the right side, there is a configuration panel titled "ASCII.1D >>> Import/Export/Modification of Radial Averaged Datasets <<<". The panel has several tabs: "Path", "ASCII.1D", "Plot.1D", "Merge.1D", "ASCII.2D", "Plot.2D", "Header.Reader", and "CSV.Reader". The "Plot.1D" tab is active. The panel is divided into sections: "Process data!", "Data-Source, From:", "Data-Destination, To:", "Input-File-Structure:", "Name-Structure:", "Options:", and "Fast :: Data Processing Interface ::".

The "Data-Source, From:" section has a dropdown menu set to "Table". The "Input-File-Structure:" section has a dropdown menu set to "ASCII" and a "# Columns:" field set to "4". The "Name-Structure:" section has a "[Prefix]-[File-Name]" dropdown menu and a "No [Prefix]" dropdown menu. The "Options:" section has checkboxes for "Modify [data]" (checked) and "Plot [in active Graph]" (unchecked). The "Fast :: Data Processing Interface ::" section has a dropdown menu set to "Q\*" and a checkbox for "save as 'Table-Active'" (checked).

At the bottom of the window, there is a taskbar with a table listing the open files:

Name	Type	View	Size	Created	Label
UNTITLED					
305053-305021-15-bs	Table	Normal	0.03 kB	2020-04-27 08:03:40.6 QI	
Graph1	Graph	Maximized	0.03 kB	2020-04-27 08:06:34.8	

# Step 08: open the same data set without rebinning



# Step 09: compare datasets

