

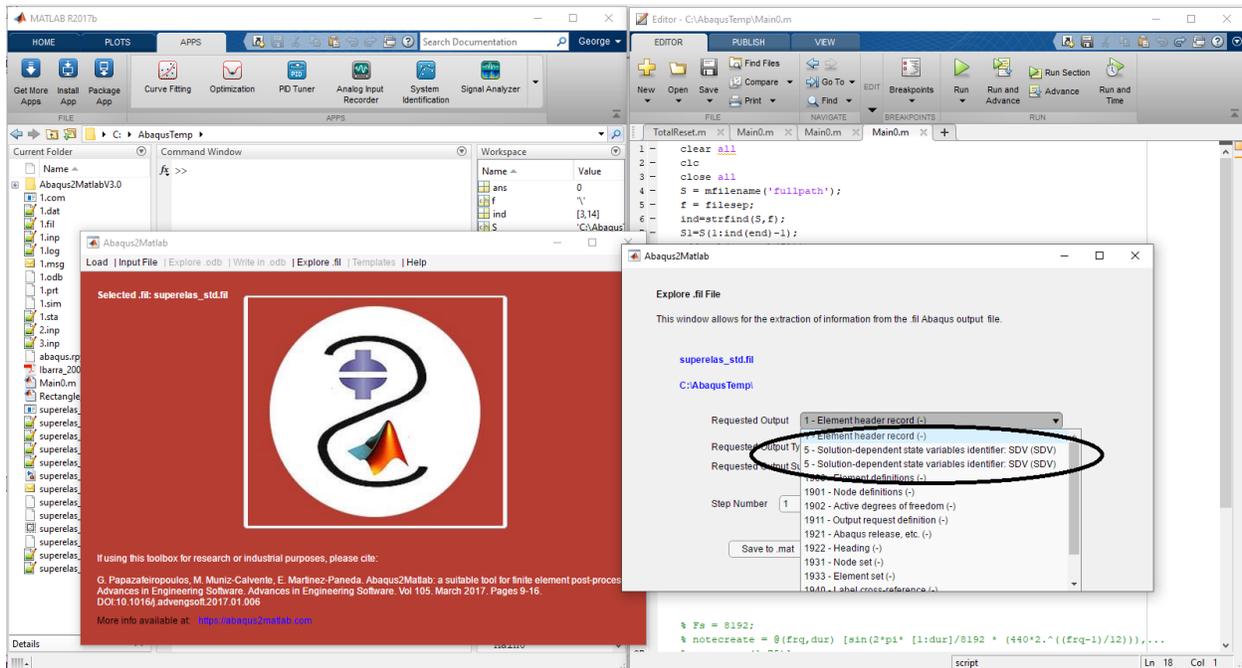
Bug Report 001

ID number	#001
Description	Unable to read SDVs from fil files
Reporter	Jouni Karjalainen, Postdoctoral researcher Research Unit of Health Sciences and Technology Faculty of Medicine University of Oulu, Finland Email: jouni.karjalainen@oulu.fi
Submit Date	04 Jan 2023
Summary	Would it be possible to have the Rec5.m for processing SDVs? I read this post https://abaqus2matlab.wixsite.com/abaqus2matlab/forum/abaqus2matlab-users-forum/read-sdvs-out-of-fil-or-odb and wondered if it would still be available. Are there plans to include it in the official release and some reasons why it is not there yet?
URL	-
Screenshot	As figures 1 - 3 below
Platform	-
Operating System	-
Browser	-
Severity	Major
Assigned to	/
Priority	High
Reply Date	09 Jan 2023
Files modified	ProcessFilX.m full_recs_Combined_table.xls full_recs_Combined.mat

Steps to reproduce

- > Open the application
- > Go to Load->.fil->select the fil file containing SDV results
- > Go to Explore .fil
- > In the window that opens, select SDV in the drop-down list right to "Requested Output"
- > Select any step number and any increment number
- > Press "Save to .mat" or "Export to WorkSpace"

Reference: Figure 1



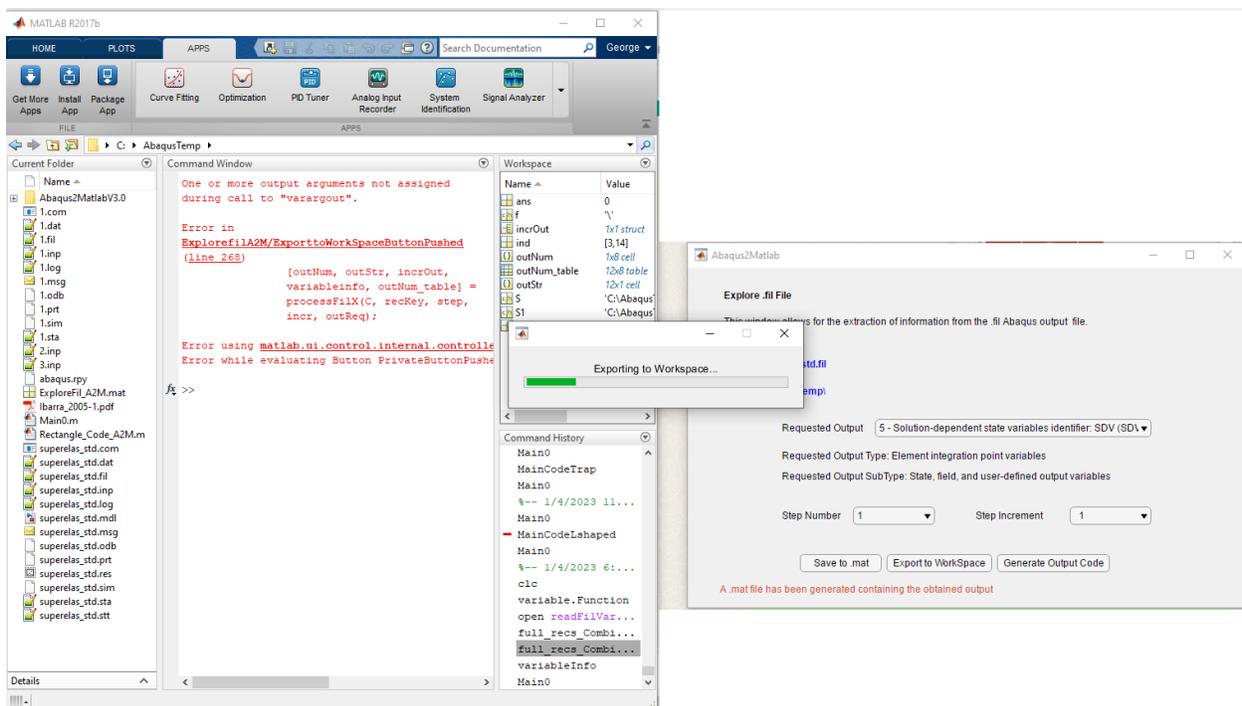
Expected result

The SDV results should be saved as a mat file, or loaded to the workspace respectively

Actual result

An error is issued as shown in the following figure:

Reference: Figure 2



Solution

ProcessFilX is a function created by Fruela de la Roza Palicio and Miguel Muniz Calvente to make easier the selection of variables and the interpretation of the results, which is the function that fails.

The functions created by George Papazafeiropoulos to extract the data from the .fil file (readFilElement.p and readFilContact.p) are still working.

In 99% of cases, the GUI worked properly:

- Extract the data by readFilElement.p or readFilContact.p, depending on the REC selected.
- Postprocess the information collected by ProcessFilX

The problem appears when data is associated with two different scenarios (i.e.SDV is associated to Elements and Contact Surfaces) and the ProcessFilX reports an error because two functions are available to read the information selected (readFilElement.p and readFilContact.p).

Now, ProcessFilX has been amended in order to call the first reading function that appears on the tables (see below) and show a warning message that alerts the users that they have two options to read that variable.

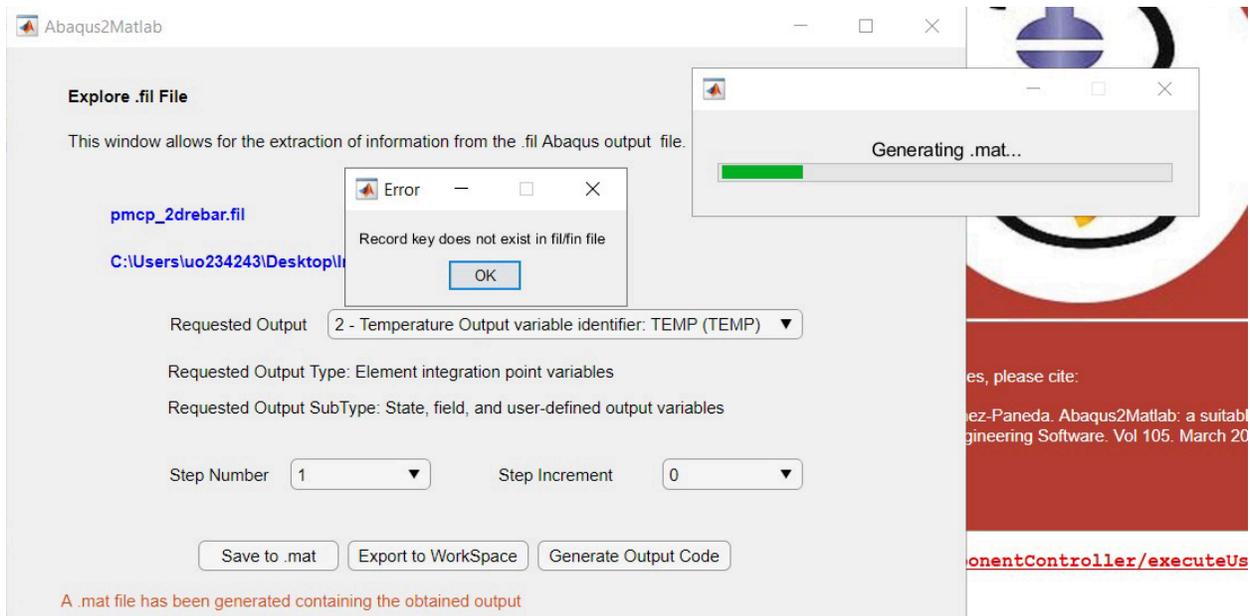
Furthermore, an extra(optional) input argument has been included on ProcessFilX to allow users to use the second function of the table.

As far as we know, the error is related to only 5 scenarios, and, in any case, the new function works properly.

<i>Definition</i>	<i>number</i>	<i>REC</i>	<i>typesummary</i>	<i>function</i>
<i>Coordinates Output variable identifier: COORD</i>	8	COORD	Element	readFilElement.p
<i>Coordinates Output variable identifier: COORD</i>	107	COORD	Node	readRec.p
<i>Electrical current density identifier: ECD</i>	425	ECD	Coupled thermal-electric elements	readFilElement.p
<i>Electrical current density identifier: ECD</i>	1541	ECD	Contact surface	readFilContact.p
<i>Heat flux vector identifier: HFL</i>	28	HFL	Element	readFilElement.p
<i>Heat flux density identifier: HFL</i>	1528	HFL	Contact surface	readFilContact.p
<i>Pore or acoustic pressure POR</i>	18	POR	Element	readFilElement.p
<i>Pore or acoustic pressure POR</i>	108	POR	Node	readRec.p
<i>Solution-dependent state variables identifier: SDV</i>	5	SDV	Element	readFilElement.p
<i>Solution-dependent state variables identifier: SDV</i>	5	SDV	Contact surface	readFilContact.p

Some results that appear in the dropdown list do not exist in the fil file though. In these cases, the code was modified to give a popup window to the user that the specified record key does not exist in the fil/fin file as follows.

Reference: Figure 3



Testing

Abaqus input files that contained the options *NODE FILE, EL FILE, CONTACT FILE, SECTION FILE, *ENERGY FILE and *FILE FORMAT were run (after replacing the *FILE FORMAT option with *FILE FORMAT,ASCII) and various types of results were successfully read by A2M from the corresponding fil files.