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Troll News



TROLL 2.3 IS NOW AVAILABLE



Interesting functions in TROLL 2.3 to boost your programming work!

• CURTASK	Return name of current task, e.g. "MODEDIT", "SIMULATE", etc.
• CURINP	Return name of the currently-running input file.
• CURTPL	Return name of the currently-running TPL procedure.
• CURPRG	Return name of the PRG file containing the currently-running TPL procedure.
• GETARGSTR	Return a "printout" of an argument number to the currently-running TPL program.
• FIRSTVAL - LASTVAL	Return the first or last value of an input array (NA if it is empty).
• LOG2 logarithm base-2	can be used in models
• EQ2STR	Return a string array containing equations from a model, avoiding to use SOURCEMOD, for example.

Others in modelling exercise



New Singular-Value Decomposition (SVD) much faster than the old MINFIT function.

The main program of this library, &JACSVD, calculates the Jacobian matrix for the current model and then uses SVD to identify which equations or variables contribute to ill-conditioning.

&JACRCOND also calculates the Jacobian but just reports its reciprocal condition number, which is much quicker.



The new programs available in TROLL are:

• &JACSVD	Perform complete SVD analysis of the current Jacobian.
• &JACRCOND	Calculate the reciprocal condition number of the current Jacobian.
• &SVDECOMP	Perform a "thin" SVD and extract the results.
• &SVDFULL	Perform a "full" SVD and extract the results.
• MATNORMS'F (mat)	Calculate various norms of mat.
• MATRANK'F (mat [, eps])	Calculate the numeric rank of mat.
• MATDERANK'F (mat, newrank)	Return the matrix closest to mat with rank newrank.
• PSEUDOINV'F (mat [, eps])	Calculate the pseudoinverse of mat.
• RCOND'F (mat)	Calculate the reciprocal condition number of mat.



CHECKPOINT ON THE FAME INTERFACE

TROLL - a new release with 4 improvements:

✓ You are already aware of existing features:

✓ IN ACCESS/SPECS command

• [NO]CONnect	Open or use a connection
• [NO]DISconnect	Disconnect when last database is closed
• HOSTnamehost	Specify name of the server's computer
• PORTservice	Specify name or number of the server's TCP port
• USERnameuser	Specify user name to use on the server
• PASSwordpassword	Specify password for user on the server
• COMMITn	Commit changes after n objects or as needed with n = NA; default is as needed.
• [NO]DEBUG	Display connection-related cfmxxxx calls or not.
• [NO]SHARED	Open local database in SHARED mode or not.
• [NO]F2S	Read local formulas as string scalars or not.
• [NO]NLVECTOR	Read namelists as string vectors or not.

✓ The FAME interface can now write to servers through explicit connections.



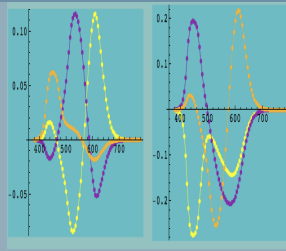
Release 2.3 offers new functionalities to use FAME more efficiently:

- ✓ TROLL can now read and evaluate FAME formulas (see example in user corner).
- ✓ A new SPECS option called DBVERsion introduced in the ACCESS command creating a FAME database:

ACCESS alias TYPE FAME ID id MODE C SPECS "DBVER xxx" ;

Where **xxx** has 3 possible values:

- **'xxx = 2'**: to create a FAME 9 compatible database, not supported by FAME 10;
 - **'xxx = 3'**: to create a FAME 9 compatible database, supported by FAME 10;
 - **'xxx = 4'**: to create a FAME 10 compatible database, not supported by FAME 9.
- ✓ Introduction of new error messages to handle error codes in FAME 10.
 - ✓ A new enhancement to enable TROLL writing no-numeric timeseries to FAME 10 databases.



USER'S CORNER

Tips of the day - you have asked us :

- ▼ How to import TimeSeries from XLSx spreadsheet to TROLL without trailing and/or leading NAs? USE NATRIM in &XLSX2TS

Basic syntax:

```
&xlsx2ts natrim file filename output output_database;
```

Example:

```
&xlsx2ts natrim file sect.xlsx output save_fromxls ;
```

Then, series are stored in *SAVE_FROMXLS*.

- ▼ Do you know that you can specify the TROLL datatype to attach to the imported data (from XLSx)? Use the DATATYPE option in &XLSX2TS

Basic syntax:

```
&xlsx2ts type datatype natrim file filename output output_database;
```

Example:

```
&xlsx2ts type numeric natrim file sect.xlsx output save_fromxls ;
```

Imported data are stored as numeric data in TROLL. All TROLL datatypes are allowed.

TROLL and FAME formulas

Assume 'OUTdb' is a FAME database containing the formulas:

```
XPlus=A+B , XTime=A*B and XDiv=A/B ;
```

- ✓ **SPECS F2S in ACCESS command retrieves the formulas as strings:**

```
ACCESS OUTdb type fame id OUTdb SPECS "f2s" ;

&prtdata db OUTdb > ; // displays formulas as
strings
```

- ✓ **No 'F2S' specification in ACCESS/SPECS command will evaluate such formulas:**

```
ACCESS OUTdb type fame id OUTdb ;

&prtdata db OUTdb > ; // displays formulas as
strings
```

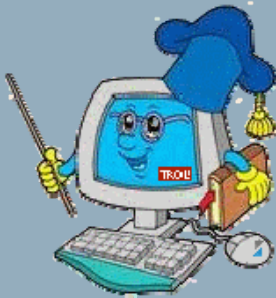
- ✓ **If A and B are in other FAME databases, say 'F1 and F2', you'll need to prepare an external file with the DB paths:**

```
DO XWRITE( C.("F1", "F2" ), "MyDBPath.txt" ) ;

ACCESS ff type fame id formdb SPECS "opentext
MyDBPath.txt";

&prtdata db OUTdb > ;

// print values from the evaluation of
formulas
```



MISCELLANEOUS

EVENT

June's course was successful: the participants were very tired at the end of the week! But don't be afraid for the next one, we'd like to encourage you, it takes place in the very heart of Paris and on the side of the session, the neighbourhood is very pleasant and helps very much to recover for the next day ☺

We foresee a session next December 2010. Let us know in advance your interest, we can find the optimal date together.

YOUR EXPERIENCE

Please let us know you would like to share experience with other users: we'll be happy to attach a flyer about ideas, experimentations, or other kind of communication you'd like to promote.

What about Stochastic Simulations?

We received requests for improvement of the stochastic simulation in TROLL. You know it is already available as collection of macros and functions &STOC, &STOCSUMM, &STOCREP:

- Do you use it? The code is open; did you develop extensions at the top of what we deliver?
- Do you have ideas and requests you would like to express about it? They are the welcome.

More information and subscription available on the website www.hendyplan.com/training
Dates may be subject to changes,