Change Log for LTPDA Toolbox v2.5.3

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Introduction 1
Main Changes 1
The collection class *1*
Other changes *1*
Complete CVS Changes 1

Introduction

This version of LTPDA is 2.5.3. This document lists the changes since V2.5.2.

This version requires MATLAB 2010a or above.

This release includes minor bug fixes and documentation updates.

Main Changes

The `collection` class

The collection class has new behaviour similar to MATLAB's `struct` class. This means that the objects in the collection can now have names assigned to them, and can be referenced via these names. Here is some example usage:

```
% Build collection using default reference names
a = ao(1);
b = ao.randn(10,10);
c = collection(a,b);
a1 = c.obj1;
b1 = c.obj2;

% specify the reference names during construction
c = collection('a', a, 'b', b);
a1 = c.a;
b1 = c.b;

% Add an object to the collection
c = collection('a', a, 'b', b);
c.d = ao(4);
```

Other changes

1) The `ao` methods `gt`, `lt`, `ge`, `le` now return `cdata` AOs.
2) The time class now has implementations of `ge` and `le`.
3) The `ao` class has a new `logical` method.
4) The `ao` class now has `all` and `any` methods which return `cdata` AOs containing logical values.
5) The `ao` class has a new parametric PSD estimator (`ppsd`) - still in beta.
6) The `timespan` class has a new method, `inTimespan`, which checks if the given time is contained in the `timespan` object.
7) The `pest` class has a new display method, `viewResults`, to show its contents in nicely formatted html tables.

Complete CVS Changes

2012-06-05 15:55 mauro

* makeToolbox.m: Removed the comma at the end of the last element. I know, this should not matter. Cosmetics

2012-06-02 09:52 hewitson

* classes/+utils/@math/loglikelihood_ssm.m: Clear C so that the next loop iteration will work.

2012-06-02 09:20 hewitson

* classes/@matrix/crb.m: We need to clear S otherwise next time round the loop the subscript assignment S(:,ii) will fail.

2012-06-01 19:48 miquel

* classes/+utils/@math/math.m: bug fix: fs is included again in the definition of the utils.math functions. This solves the error on the mcmc pipeline

2012-06-01 17:44 nikos

* classes/: +utils/@math/rjsample.m, @matrix/modelselect.m: Adapt to recent changes to loglikelihood

2012-06-01 14:21 ingo

* html_help/help/ug/: releasenotesV2_5_3_content.html, releasenotes_content.html: Add release notes for release 2.5.3

2012-06-01 14:19 ingo

* html_help/help/: helptoc.xml, helptocR2009a.xml, helptocR2009b.xml, helptocR2010a.xml: Add release notes for the release 2.5.3

2012-06-01 11:48 miquel

* classes/+utils/@math/math.m: adding methods in the math file

2012-06-01 11:48 miquel

* classes/+utils/@math/: dispersion_1x1.m, dispersion_2x2.m: utils math methods

2012-06-01 11:47 miquel

* classes/@matrix/dispersionLoop.m: a method to compute dispersion function in loop

2012-06-01 11:47 miquel

* classes/@matrix/dispersion.m: updating dipersion function method

2012-05-31 20:55 mauro

* classes/@time/time.m: Support the following syntax: t = time('2012-05-15 00:00:00.000', plist('timezone', 'CET'))

2012-05-31 16:29 hewitson

* classes/@ssm/setParameters.m: Add support for giving in a pest object so the history of the parameter values is preserved.

2012-05-31 13:20 nikos

* classes/@matrix/mcmc.m: had forgoten a bracket that produced an error

2012-05-31 13:08 nikos

* classes/+utils/@math/mhsample.m: Fixed acceptance ratio txt file and we dont need to save the chains to txt

2012-05-31 12:40 nikos

* classes/: +utils/@math/mhsample.m, @pest/mcmcPlot.m: Fixed plot names: with 'interpreter','none' they appear prettier!

2012-05-31 12:00 nikos

* classes/: +utils/@math/mhsample.m, @matrix/mcmc.m: Added some keys in the default plist, also some checks if items are empty or produce errors. Fixed the naming of plots in mhsample function.

2012-05-31 08:43 hewitson

* classes/@matrix/crb.m: Don't add the model history in addHistory because this is given through the plist.

2012-05-31 08:43 hewitson

* classes/@matrix/mcmc.m: Don't add the model history in addHistory because this is given through the plist.

  Use applyDefaults rather than parse, as per current best practices.

2012-05-30 21:24 nikos

* classes/: +utils/@math/mhsample.m, @matrix/mcmc.m: Added parameter names to the Y axis of the plots and the check if parameters are out of ranges is transfered to mcmc function

2012-05-30 18:26 nikos

* classes/@matrix/mcmc.m: check if initial values are out of bounds. If so, a warning is thrown and an initial value is chosen randomly from the ranges specified.

2012-05-30 16:05 nikos

* classes/+utils/@math/loglikelihood_ssm.m: Forgot to commit the likelihood_ssm

2012-05-30 16:02 nikos

* classes/: +utils/@math/mhsample.m, @ssm/isStable.m: loglikelihood_ssm: throw an error if system is not stable, adapt with mhsample function to reject these samples that produce the error. Also added a plist key in isStable so that we avoid tons of messages during MCMC. This will change back when we transfer some functions from utils.math.

2012-05-29 15:45 nikos

* classes/@matrix/mcmc.m: Small fix: Was using the same plist name and was not passing the correct plist to history

2012-05-29 15:15 nikos

* classes/@matrix/crb.m: added history to matrix.crb

2012-05-29 14:52 nikos

* classes/+utils/@math/mhsample.m, classes/@matrix/mcmc.m,
  html_help/help/ug/sigproc_fit_mcmc_ex1_content.html: Small fix
  for the proposal distribution and help update

2012-05-28 15:32 nikos

* classes/: +utils/@math/drawSampleM.m, +utils/@math/drawSampleT.m,
  +utils/@math/loglikelihood_matrix.m,
  +utils/@math/loglikelihood_ssm.m, +utils/@math/math.m,
  +utils/@math/mhsample.m, +utils/@math/stnr.m, @matrix/mcmc.m,
  @matrix/modelselect.m: MCMC update: - Added Metropolis-Hastings:
  user inputs desired proposal PDF - Small modification to stnr
  function - Small fixes to loglikelihood to adjust to new changes
  - Added function to draw samples from Gaussian Mixture (under
  test) - code clean up

2012-05-24 18:09 hewitson

* classes/@matrix/linfitsvd.m: Added a plist parameter to set the
  filter used in resampling.

2012-05-24 16:01 hewitson

* classes/@ao/filter.m: An attempt to set a better name when
  filtering with a filterbank.

2012-05-24 15:24 hewitson

* classes/@pest/viewResults.m: First version of a pest method to
  display the data in nice html tables.

2012-05-23 16:46 hewitson

* classes/@ltpda_uo/retrieve.m: I think it's too harsh to throw an
  error here. A warning is enough to alert the user of potential
  problems. To be discussed.

2012-05-18 14:15 luigi

* classes/+utils/@math/: math.m, overlapCorr.m: fixed some problems

2012-05-17 09:46 hewitson

* classes/+utils/@helper/installExtensionsForDir.m: I don't think
  we want to put the examples in the path since this folder can
  often be full of data files, which then end up in the path,
  causing all kinds of problems because MATLAB picks them up.

  To be discussed.

2012-05-16 14:16 mauro

* classes/@ao/timeaverage.m: Supporting a call with time ranges
  defined as: [tstart_1 tend_1;tstart_2 tend_2;tstart_3 tend_3]

2012-05-16 14:07 mauro

* classes/@ao/timeaverage.m: Fixed parameter name in help

2012-05-16 11:27 mauro

* classes/@ao/timeaverage.m: Help updated, without using a function name as a variable name

2012-05-15 12:41 mauro

* classes/@unit/isequal.m: Added a unit.isequal method. It does what currently unit.eq does

2012-05-15 10:02 nikos

* classes/: @ao/mcmc.m, @matrix/mcmc.m: small typo and had forgotten a line

2012-05-14 18:24 hewitson

* classes/@matrix/linfitsvd.m: 1) Added a parameter to specify the sample rate the ssm model should be discretized at.

  2) For the case of ssm models, resample the input data to match the sample rate of the model, and resample the output to match the original data sample rate. The default value for the new model sample rate parameter ensures the same behaviour as before.

2012-05-14 06:43 mauro

* classes/@matrix/linfitsvd.m: Cosmetics

2012-05-14 06:42 mauro

* classes/@ssm/doSetParameters.m: Use plist.getKeys rahter than accessing the property

2012-05-13 18:00 nikos

* classes/: +utils/@math/diffStepFish.m, +utils/@math/diffStepFish_1x1.m, +utils/@math/fisher_1x1.m, +utils/@math/fisher_2x2.m, +utils/@math/math.m, @matrix/mcmc.m: added fs as an input to these functions, just a recent adaptation since we don't input aos but vector data now.

2012-05-13 07:09 hewitson

* classes/@plist/subsref.m: We can't use this at the moment due to a bug in MATLAB which stops us reproducing the default behaviour for all cases except the one we are specialising. A pity.

2012-05-12 22:59 mauro

* test/test_list.m: Added a test I want to be executed for a while

2012-05-12 22:23 mauro

* test/test_ssm_setParameters.m: Added a test for ssm.setParameters It just verifies the parameters values are actually set

2012-05-11 15:08 ingo

* classes/@timespan/inTimespan.m: new method which checks if a time is in between a time span.

2012-05-09 16:21 mauro

* classes/+utils/@helper/installExtensionsForDir.m: Add also the path to the 'pipelines' and 'examples' subfolders of modules

2012-05-09 16:17 mauro

* classes/@plist/eq.m: Renamed a local function

2012-05-09 16:17 mauro

* classes/@ltpda_obj/isequal.m: Fixed error message Remove dead code

2012-05-09 16:16 mauro

* classes/@plist/isequal.m: Added a plist/isequal method. Doing what plist/eq is currently doing.

2012-05-07 22:50 mauro

* classes/@ltpda_obj/isequal.m: Bug fix: we need to replace ltpda_obj/eq with ltpda_obj/isequal

2012-05-04 17:50 hewitson

* classes/+utils/@helper/callerIsMethod.m: Two changes: firstly only return true for ltpda_obj subclasses. Secondly, one condition was overly strong, I think. At least I had examples which failed to work, but should have. This is particularly true for overloaded methods.

2012-05-04 17:48 hewitson

* classes/@ssm/simulate.m: bug fix: support setting the t0 bt passing a string.

2012-05-04 13:43 luigi

* classes/+utils/@math/findShapeParamKStestSpectrum.m: improoved code efficiency

2012-05-03 19:13 luigi

* classes/+utils/@math/: findShapeParamKStestSpectrum.m, math.m: new utils to calculate the shape parameter for a fair kstest on the spectrum

2012-05-03 19:13 luigi

* classes/+utils/@math/kstest.m: bug fixed for the gama function case, a typo

2012-05-02 15:40 nikos

* classes/: +utils/@math/math.m, +utils/@math/mhsample.m, +utils/@math/rjsample.m, @matrix/modelselect.m: Some more clearing of the code, and removing heating keys from rjsample plist.

2012-04-30 16:18 nikos

* classes/+utils/@math/: drawSampleT.m, stpdf.m: Student's-t pdf function and draw random samples from Student's-t distribution.

2012-04-30 16:17 nikos

* classes/: +utils/@math/math.m, +utils/@math/mhsample.m, @matrix/mcmc.m: Some more cleaning

2012-04-29 15:22 nikos

* classes/: +utils/@math/mhsample.m, @matrix/mcmc.m: Some minor fixes.

2012-04-27 17:01 nikos

* classes/: +utils/@math/math.m, +utils/@math/mhsample.m, @matrix/mcmc.m: Now the Fisher Matrix can be updated automatically during the MCMC run for efficiency. The user chooses the frequency (in samples) where the FIM should be updated.

2012-04-27 16:58 nikos

* test/test_ao_ppsd.m: remove a constant

2012-04-27 16:57 nikos

* classes/+utils/@math/: loglikelihood_matrix.m, loglikelihood_ssm.m: A little bit of cleaning and minor bug fixes.

2012-04-27 16:54 nikos

* classes/@matrix/crb.m: adapt to recent changes of fisher1x1 and fisher 2x2

2012-04-27 16:53 nikos

* classes/+utils/@math/: fisher_1x1.m, fisher_2x2.m: Now these functions accept only vector data and not AOs. Also PSD is calculated in crb.m

2012-04-24 13:32 nikos

* classes/@ao/ppsd.m, test/test_ao_ppsd.m: New function to compute PSD with parametric methods by estimating ARMA models coefficients. Also included a test file. NOTE: Still under test.

2012-04-24 13:14 ferran

* classes/@ssm/modifyTimeStep.m: Add option to avoid potential divergence of the D matrix by reducing the time step during the exponential matrix series computation.

2012-04-22 22:27 mauro

* classes/@ao/spikecleaning.m: A better implementation, I think

2012-04-22 20:53 mauro

* classes/@ao/: all.m, any.m: Changed to output cdata aos

2012-04-21 14:05 mauro

* classes/@ao/: all.m, any.m: Overloading the methods 'all' and 'any' for AOs. They return an AO with a logical value, where the value is true or false according to Matlab role for all/any applied to the data vector

2012-04-21 13:55 mauro

* classes/@ao/y.m: Bug fix: the y field could be empty

2012-04-20 22:16 mauro

* classes/@ao/logical.m: Added an ao.logical method

2012-04-20 22:13 mauro

* classes/@ao/y.m: Make sure the y output is of the same type (double, logical) as the field value

2012-04-20 22:08 mauro

* classes/@ao/double.m: Bug fix in the case of vector input. Make sure we convert to double the output.

2012-04-20 14:31 hewitson

* classes/@plist/subsref.m: Bug fix: we have to be carefull with this subsref stuff not to break other behaviour. In the first version, the following was broken:

  p = [plist plist] p(1)

  I think it's fixed now.

2012-04-20 10:21 hewitson

* classes/@collection/: subsasgn.m, subsref.m: Added help headers to these files.

2012-04-20 10:21 hewitson

* classes/@plist/subsref.m: First implementation of plist/subsref. You can now do

  pl('a') instead of pl.find('a')

2012-04-19 23:46 mauro

* classes/@ao/spikecleaning.m: Adapted to work with the new behavior of ao/lt

2012-04-19 22:11 mauro

* classes/@ltpda_obj/: ge.m, gt.m, le.m, lt.m: Added an explicit implementation so to be sure to provide the user the correct information. The ao, time and other classes override these methods so to ensure the proper behavior.

2012-04-19 13:04 hewitson

* test/test_collection_props.m: A test file demonstrating the use of the new collection behaviour.

2012-04-19 13:03 hewitson

* classes/+utils/@helper/callerIsMethod.m: Add subsref and subsasgn to the exception list because we want the history to be added for methods called in there.

2012-04-19 13:02 hewitson

* classes/@collection/setObjs.m: When resetting the objects we need to reset the field names as well.

2012-04-19 13:02 hewitson

* classes/@collection/setObjectAtIndex.m: 1) Remove the callerIsMethod case because this stops us using this method in subsasgn. 2) Ensure the objects in the collection are only

objects of class ltpda_uo.

2012-04-19 13:01 hewitson

* classes/@collection/identifyInsideObjs.m: Add support for the new 'names' behaviour, because the names can be specified in the plist at build time.

2012-04-19 13:00 hewitson

* classes/@collection/generateConstructorPlist.m: Append the 'names' field to the plist.

2012-04-19 13:00 hewitson

* classes/@collection/fromInput.m: Added support for the new 'names' behaviour. Also add exceptions to setObjectProperties for 'objs' and 'names' since they are handled in the function.

2012-04-19 12:59 hewitson

* classes/@collection/: attachToDom.m, fromDom.m: Save and load the 'names' property.

2012-04-19 12:59 hewitson

* classes/@collection/addObjects.m: 1) added support for the new 'names' stuff 2) removed the old call to setProperties.

2012-04-19 12:58 hewitson

* classes/@collection/: subsasgn.m, subsref.m: New overloaded versions of subsasgn and subsref to support the 'struct'-like behaviour for collections. Headers still need to be added.

2012-04-19 12:57 hewitson

* classes/@collection/display.m: Add the entry 'names' to the display.

2012-04-19 12:49 hewitson

* classes/@collection/copy.m: Also copy the new 'names' field.

2012-04-19 12:49 hewitson

* classes/@collection/collection.m: Added a new field 'names' which allows us to name entries in the collection. Added new constructor code to handle this.

  c = collection('a', a, 'b', b);

2012-04-19 12:48 hewitson

* classes/@ltpda_uoh/type.m: Restructure to allow returning the text. This was necessary to allow us to overload subsref for the collection class.

2012-04-19 06:15 mauro

* classes/@ltpda_obj/: isequal.m, ltpda_obj.m: Added an isequal method, which is meant to be replacing the eq method (with a single boolean value as output)

2012-04-19 06:13 mauro

* classes/@ltpda_obj/ltpda_obj.m: Make the ge/le methods hidden, so that they are visible (available to user) only when they are overloaded properly

2012-04-19 06:11 mauro

* classes/@time/: ge.m, le.m: Implementation of the le, ge methods for time objects

2012-04-18 22:59 mauro

* classes/: @ao/display.m, @collection/display.m, @filterbank/display.m, @matrix/display.m, @parfrac/display.m, @pest/display.m, @plist/display.m, @pzmodel/display.m, @rational/display.m, @smodel/display.m: Use utils.prog.cutString to ensure the description does not exceed a reasonable length

2012-04-18 17:30 mauro

* classes/+utils/@prog/strpad.m: Go back to the previous behavior, since the cutting is provided by utils.prog.cutString Help fixed accordingly

2012-04-18 17:27 mauro

* classes/+utils/@prog/cutString.m: Put it back.

2012-04-18 17:10 mauro

* classes/@ao/elementOp.m: We need to clear the units also when doing gt, ge, lt, le

2012-04-18 17:09 mauro

* classes/@ao/: ge.m, gt.m, le.m, lt.m: Now these methods return an object (same class as the original container, tsdata, xydata etc) with y fields being the results of comparing the input object y values with the target

2012-04-18 10:16 mauro

* classes/+utils/@prog/strpad.m: Bug fix: the cutting at fixed length (declared in the help) was not implemented properly. This is still broken with the [N1 N2] input

2012-04-18 10:13 mauro

* classes/: @ao/display.m, @collection/display.m, @filterbank/display.m, @matrix/display.m, @parfrac/display.m, @pest/display.m, @plist/display.m, @pzmodel/display.m, @rational/display.m, @smodel/display.m: Use utils.prog.strpad to ensure the description does not exceed a reasonable length

2012-04-18 10:05 mauro

* classes/+utils/@prog/cutString.m: Removed, since the functionality is provided by utils.prog.strpad

2012-04-17 21:51 mauro

* classes/: @ao/display.m, @collection/display.m, @filterbank/display.m, @matrix/display.m, @parfrac/display.m, @pest/display.m, @plist/display.m, @pzmodel/display.m, @rational/display.m, @smodel/display.m: Use utils.prog.cutString to ensure the description does not exceed a reasonable length Code harmonization here and there

2012-04-17 21:36 mauro

* classes/+utils/@prog/: cutString.m, prog.m: An utility to shorten a string to a given limit. Could be I am just reinventing the wheel, but this might be helpful to generalize some properties display functions.

2012-04-17 14:18 mauro

* classes/@ssm/ssm.m: The call to getInfo was broken since I moved the addtion of global keys at the end. This fixes it, while it should still be conceptually correct.

2012-04-17 14:16 mauro

* classes/@ltpda_uo/retrieve.m: Error message clarified

2012-04-15 22:40 mauro

* classes/@ssm/ssm.m: Moving the global keys at the end, so the 'sets' plist start with the parameter that forces the choice of the construction method

2012-04-15 22:39 mauro

* classes/@ao/ao.m: Minor fix in documentation

2012-04-15 22:35 mauro

* classes/@ao/ao.m: Introduced support for the syntax a1 = ao(plist('id', 2)); with repository/database choice to come later

2012-04-15 22:24 mauro

* classes/@ao/: psd.m, xspec.m: Error message clarified

2012-04-11 13:16 nikos

* classes/@matrix/mcmc.m: User now can window the data inside the mcmc function.

2012-04-04 16:20 ingo

* classes/@ao/fromTSfcn.m: bug fix: The error occurs when we call the tsdata constructor and the tsdata constructor computes its new 'fs'. But the 'fs' is given in this file and it can happen that a rounding error occurs in tsdata. For example: fs = 38.656e6; n_samp = 40960000; a2 = ao(plist('tsfcn', 'sqrt(fs/2).*randn(size(t))','fs', fs, 'Nsecs' ,n_samp/fs)); a2.fs - fs

2012-04-02 22:20 mauro

* classes/@ao/select.m: Bug fixed in help

2012-04-02 22:18 mauro

* classes/@ao/select.m: Added support for aos with y values represented by vectors of logical. The data are extracted only in correspondence to 'true' values.

2012-04-02 10:54 mauro

* classes/@ao/convert.m: Make sure we transfer also dx, dy Cosmetics

2012-03-29 21:34 mauro

* classes/@ao/select.m: Added support for vectors of logical. The data are extracted only in correspondence to 'true' values.

2012-03-27 16:38 luigi

* classes/+utils/@math/: autodfit.m, vdfit.m: bug fixed, when external weight are used to do the fit that the mse should be weighted with the user provided weights

2012-03-23 10:44 nikos

* classes/: +utils/@math/mhsample.m, @matrix/mcmc.m: Removed 'dw' option, I think we dont need it. Also got rid of dependance on the statistical toolbox

2012-03-22 10:00 mauro

* test/test_ao_timeaverage.m: Added tests. Use a non zero reference time.

2012-03-22 09:38 mauro

* classes/@ao/fixAxisData.m: Do not force data2D object contents into xydata objects, so that the mean of tsdata, with 'axis' parameter set to 'xy', is still a tsdata object (same t0, fs, etc) Removed error case that is handled at higher level via plist analysis Added version tag

2012-03-21 22:23 mauro

* classes/+utils/@helper/checkMatlabVersion.m: This is typically one of the first places where the users encounter an error, if they forget to run ltpda_startup. Added a hint.

2012-03-21 21:40 mauro

* classes/@unit/toSI.m: Help updated

2012-03-19 16:23 ingo

* classes/@plist/tohtml.m: Open for the standalone a own browser and not the document browser.

2012-03-19 12:34 ingo

* classes/@plist/plist.m: 'unhidden' the methods tohtml.

2012-03-16 09:29 mauro

* html_help/help/ug/ltpda_training_2_topic_5_3_content.html: Typo fixed