

A. Making a Movie in MATLAB

To make a movie of MATLAB figures first have MATLAB generate the frames of the movie. An example file is the following...

```
% initialize vectors (x and y) and the axes used for plotting
nx=40;
x=linspace(-2,2,nx);
y=exp(-8*x.*x);
plot(x,y);
lim=axis;

% nframes = number of frames in movie
nframes=40;
M=moviein(nframes);

% Note: memory can be reduced by making the plot window smaller
% and commands to get and set the current plot size are...
%get(gca,'Position')
%set(gca,'Position',[0.13 0.11 0.5 0.6]);

% loop to produce frames of the movie (frames stored in matrix M)
dt=2/nframes;
for it=1:nframes
z=x-sin(2*pi*it*dt);
y=exp(-8*z.*z);
plot(x,y)
axis(lim)
drawnow;
M(:,it)=getframe;
end;

% various commands to show movie
movie(M);
movie(M,3);
```

B. Turning a MATLAB Movie into an MPEG File

You can turn the movie into a MPEG file by using the `mpgwrite` command

```
map=colormap;
mpgwrite(M, map, 'filename')
```

where 'filename' is the string containing the name of the MPEG file. Note this is not a regular MATLAB command and the source file for it can be found at <http://www.mathworks.com/ftp/graphicsv5.shtml>. Alternatively, you can copy the files in the directory `~holmes/public/mpgwrite` into the directory where you keep m-files on RCS (note this will only work on UNIX machines). To play these movies on RCS you can use a command like the following...

```
mpeg_play filename.mpg
```

or

```
mpeg_play -loop filename.mpg
```

C. Turning a MATLAB Movie into a QuickTime File

You can create a QuickTime file containing the movie by using the following commands (it only works on a Mac)...

```
map=colormap;  
qtwrite(M,map,'filename',[12,3,3]);
```

where 'filename' is the string containing the name of the QuickTime file.

D. Putting a MATLAB Movie into an HTML Document

To put a QuickTime movie into a HTML document insert something like the following (see <http://www.apple.com/quicktime/authors/webmas.html> for details):

```
<EMBED SRC="movie.mov" AUTOPLAY="false" CONTROLLER="true" HEIGHT=246 WIDTH=256>
```

To put a MPEG file into a HTML document simply insert:

```
<a HREF="filename.mpg">My MPEG movie</a>
```

E. Dynamic Adjustment of Plot Titles in MATLAB

To dynamically adjust plot titles in a MATLAB plot, simply type something like the following...

```
title(['Example Movie: Frame',num2str(iframe)])
```

where "iframe" is a variable that changes values for each frame of the movie.