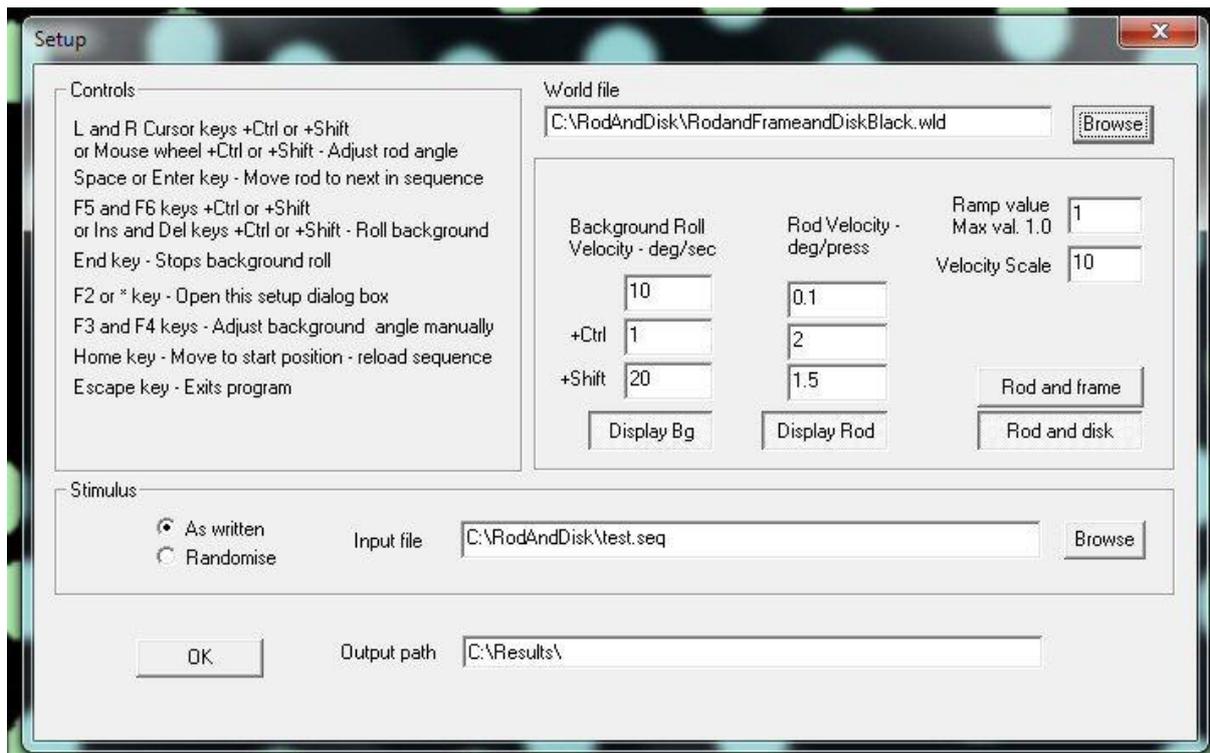


Rod and disk Program – September 2012

This program is written using the 3dState games engine V8. <http://www.3dstate.com/>.

The first time the program is run it's likely that it won't find the file which defines the world. RodandFrameandDiskBlack.wld. After the program does a few beeps and possibly error messages about not finding the world or objects (you need to keep pressing return until it stops). Press F2 which brings up the setup dialog.

The Setup Dialog



The setup dialog shows, on the left, all the key presses to operate the program. For the background roll and rod velocity 3 values can be set. The value just pressing the relevant key on its own (F5 – roll background CCW for instance). The value pressing the relevant key+Control key and the value pressing the relevant key+Shift key.

The path for the world file (RodandFrameandDiskBlack.wld) has to be set, this is the most likely reason for the background not loading (and all the beeping/error messages).

The path for the input file (test.seq – see below) - containing the offsets for the rod (and frame if it's being used).

There should be an output folder (which should exist before the program is run) where a file of the subject response is saved. The path for this is also set in the setup dialog.

The Velocity Scale also has to be set (it's different depending on the speed of the computer on which the program is running) so that the background roll in deg/sec is correct. The default is 1 - bigger numbers speed up the rotation and smaller slow it down. If the actual rotation speed is out by, say a factor of 2 faster, then multiply the current Velocity Scale value by 0.5. If it's out by a factor of 25% too slow then multiply the current Velocity Scale value by 1.25. It may also need a bit of fine tuning.

The Ramp value changes how fast the rotating background reaches its set velocity the smaller the number the longer the ramp time. The default and max value is 1 which is no ramp at all.

The Rod or Disk or Frame can all be switched off separately. So you could have a blank background with just a rod or just the rotating background (or offset frame – depending on the type of test selected).

The test.seq file

RodandDisk

10 70
10 -50
10 60
10 -40
-10 30
-10 -60
-10 90
-10 -20
20 25
20 40
20 -25
20 -40

This file contains (see example above) two columns. The first contains the angle to set the frame (for the rod and frame test – but it needs to be there) and the second contains the angles to set the rod offsets for each test in the sequence. The sequence length is determined by the number of rows in the test.seq file. This test sequence can be run in the order as written or randomized.

The results file – Rod and Disk

[Roll Vel(°/s)] [Rod Start Posn(deg)] [Rod Set Posn.(deg)]

10. 70.0 1.0
10. -50.0 1.5
10. 60.0 1.0
10. -40.0 1.2
10. 30.0 1.3
10. -60.0 1.1
10. 90.0 1.3
10. -20.0 1.1
10. 25.0 1.3
10. 40.0 1.0
10. -25.0 0.5
10. -40.0 -0.5

This file contains three columns. The velocity °/s of the rotating background (+ve – CW, -ve – CCW), the original offset of the rod in degrees and the subjects response in degrees.

The results file – Rod and Frame

```
[Bg Start Posn.(deg)]  [Rod Start Posn(deg)]  [Rod Set Posn.(deg)]  
  
10.0  70.0  70.0  
10.0  -50.0  6.9  
10.0  60.0  -4.7  
10.0  -40.0  0.0  
-10.0  30.0  -6.0  
-10.0  -60.0  2.0  
-10.0  90.0  0.0  
-10.0  -20.0  8.0  
20.0  25.0  -11.0  
20.0  40.0  -6.0  
20.0  -25.0  5.0  
20.0  -40.0  4.0
```

This file also contains three columns. The offset angle in degrees of the frame, the original offset of the rod in degrees and the subjects response in degrees.

Modifying backgrounds/Rods/Frames

Different backgrounds/ rods can be used. Using a painting program you can create your own. The bitmaps (which can be either .bmp or jpg) should be kept to the same pixel sizes as the ones supplied with the program. To use them place them in the Bitmaps folder (best if they have different names to the current files). The world file should then be edited with notepad to reflect these different names.

```
POLYGON: backgroundRD  
        COLOR: 0 0 0  
        BITMAP: BackgroundBlack  
        TRANSPARENT: -1 DISABLE_BLENDING  
        ROTATED: NO  
        LIGHT_DIMINUTION: 5  
        NUM_OF_POINTS: 4  
            -3      40      40      0      1      10  
            -3      40     -40      0      0      10  
            -3     -40     -40      1      0      10  
            -3     -40      40      1      1      10
```

For each polygon (see above) which is changed (rod,rotating background and frame) just change the name next to BITMAP in the appropriate part of the .wld file. Saving it with a different name and then changing the World path in the setup dialog.

Photographs of our Rod and Disk viewing apparatus. The subject response is with the mouse wheel. The experimenter can use a numbers keypad to control the testing. The key presses required are shown on the setup dialog.

