

## DMM TUTORIAL 7: Maya Forces

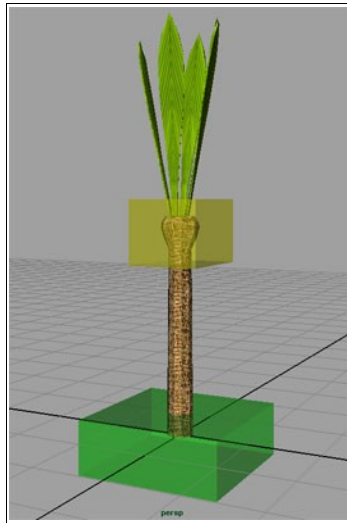
You can apply Maya force fields and fluid effects to DMM objects. This a powerful technique to make explosions or to add wind or water to a simulation.

In this tutorial you will

- apply a force field to different DMM objects
- animate one of the objects with Maya and see how the different forces interact

### Applying a Turbulence Field to a DMM plant

1. Open the *tutorial7\_start.ma* scene which is provided here. It is a simple DMM palm tree made of a wooden trunk on which are glued 4 DMM leaves. The base of the trunk is passive.



2. Play the simulation. You should see the leaves fall under the effect of gravity.
3. Create a Maya Turbulence Field.

Note: When creating a Maya Force Field, be sure NOT to have any DMM Object selected, otherwise Maya will turn them into Rigid Bodies.  
If this accidentally happens, you can use *DMM Scene / Delete Rigid Bodies in DMM Objects*

4. Move it to position X: -2 / Y: 0.7 / Z: 0
5. Modify the field's parameters to
  - Attenuation: 0
  - Frequency: 15
  - Phase X: 25
6. In order to let the leaves fall into place before being influenced by the Maya field, we will key-frame the field's Magnitude attribute.
  - Set it to 0 at frame 0 and 80.
  - Set it to 20 at frame 100.

7. Play the animation for 250 frames. The tree isn't affected by the field at all.
8. We are now going to apply the Maya Turbulence field to 2 of the DMM leaves.
  - Select the Turbulence field and two of the DMM leaves.
  - Select DMM Asset / Apply Maya Force to DMM Object.
9. Play the animation again. Now you can see the selected leaves are affected by the force field, while the others only fall under the effect of gravity. (tutorial7\_video1.mov)
10. You can now apply the field to the remaining leaves and the trunk.
  - If you don't remember which leaves have already been attached to the Maya field, you can check by selecting *Edit DMM / Select DMM Object / Connected to Maya Force*
11. Play the animation. (tutorial7\_video2.mov)
12. Set a new key-frame with a Magnitude of 80 at frame 200 and play the animation. (tutorial7\_video3.mov)

This scene is provided in tutorial7.zip: *tutorial7\_1.ma*

### **Animating a DMM plant which is also influenced by a Maya field**

In tutorial 3, we controlled the animation of DMM objects (key-frame animation) by using passive regions. So what would happen to our tree if we decided to move it around while it is also influenced by the turbulence field?

1. Parent the passive region to the tree trunk
2. Animate the trunk
  - frame 2 position :
  - frame 50 position :
  - frame 100 position :
3. Play the animation (tutorial7\_video4.mov)

This scene is provided in tutorial7.zip: *tutorial7\_2.ma*