

# Animation Effects using the *glman* Timer Variable



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**Oregon State**  
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Computer Graphics

<b>uniform float Timer;      // goes from 0. → 1. in 10 seconds</b>
---

---

Ramp 0.→1.

```
float t = Timer;
float t = Timer*Timer;
float t = Timer*Timer*Timer;
float t = 3.*Timer2 – 2.*Timer3;
float t = 10.*Timer3 – 15.*Timer4 + 6.*Timer5
```

---

Ramp 0.→1. →0.

```
float t;
if( Timer <= .5 )
    t = 2.*Timer;
else
    t = 2. * ( 1. – Timer );
```

---

Smooth oscillation -1. → 1. → -1.

```
float t = sin( 2.*π*Timer );
```

---

Faster oscillation

```
float t = sin( 2.*π*S*Timer );
```

---

Bigger oscillation

```
float t = Mag * sin( 2.*π*S*Timer );
```

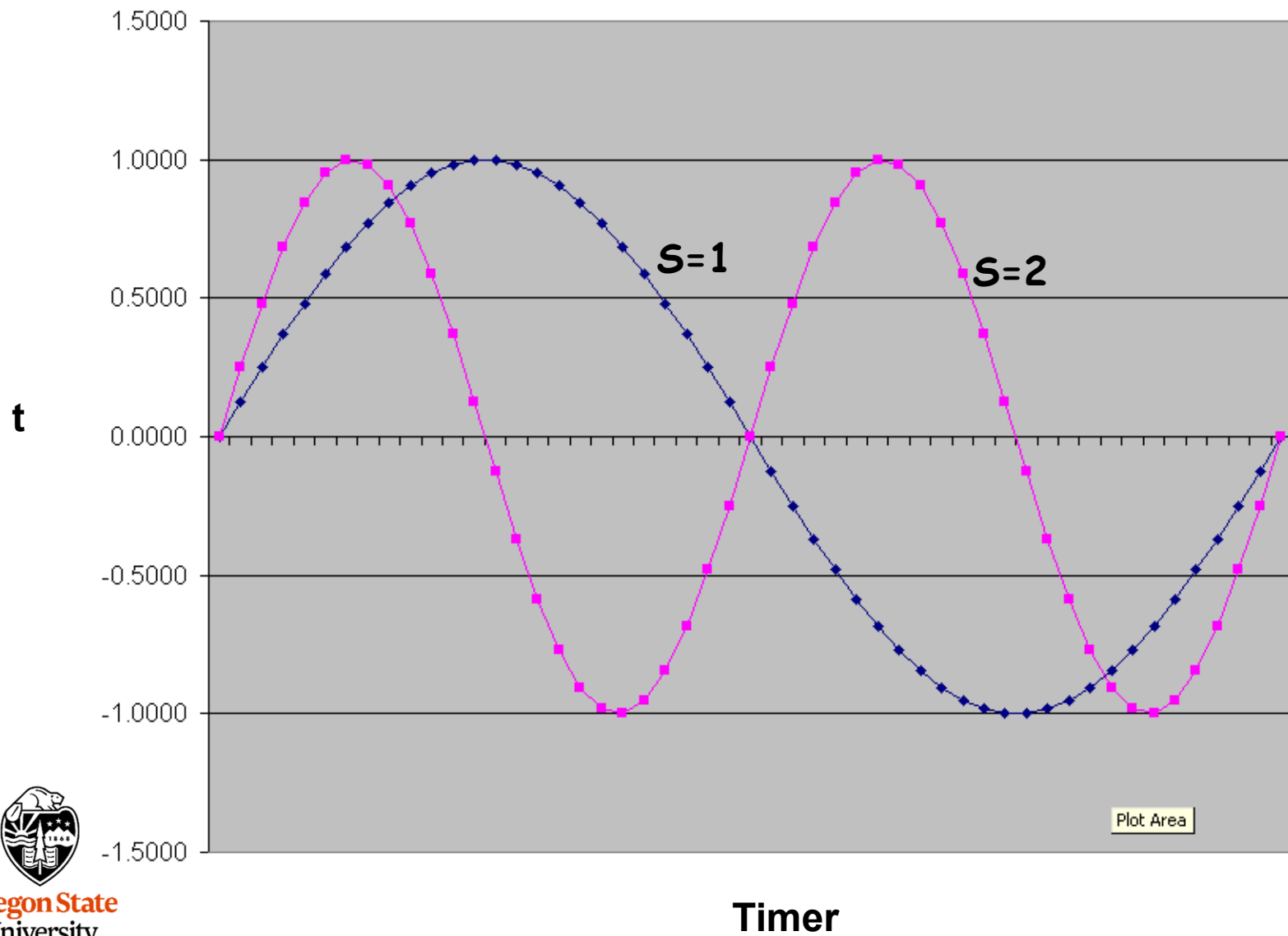
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Smooth oscillation 0. → 1. → 0.

```
float t = .5 + .5*sin(2.*π*Timer );
```

---

```
float t = sin( 2.*π*S*Timer );
```



# Fun-With-Zero-To-One

