Disney Aniso Specular - based on Kajiya-Kay 1989

$$\text{normalize}(\vec{u}) = \frac{\vec{u}}{\sqrt{\vec{u} \cdot \vec{u}}} \tag{1}$$

$$reflect(\vec{I}, \vec{N}) = 2 * (\vec{I} \cdot \vec{N}) * \vec{N} - \vec{I} \tag{2}$$

Tangent vector:

$$X = \text{normalize}(0, \vec{1}, 0 \times \vec{n}) \tag{3}$$

Bitangent vector:

$$Y = \text{normalize}(\vec{n} \times X) \tag{4}$$

$$T = Y \tag{5}$$

$$roughness = 0.1 \tag{6}$$

$$glossiness = (1/roughness) \tag{7}$$

$$lightAngle = (\vec{\omega_i} \cdot \vec{n}) \tag{8}$$

$$cosAngleLT = (\vec{\omega_i} \cdot T) \tag{9}$$

$$sinAngleLT = \sqrt{(1 - (cosAngleLT * cosAngleLT))} \tag{10}$$

$$cosAngleVT = (\vec{\omega_o} \cdot T) \tag{11}$$

$$spec = ((sinAngleLT * \sqrt{(1 - (cosAngleVT * cosAngleVT))}) - (cosAngleLT * cosAngleVT))^{glossiness} \tag{12}$$

$$f = spec \tag{13}$$