**BRDF**

**What:**

**Why:**

**How:**

**BDRF有哪些变量？**

float3 diffuse;

float3 specular;

float roughness;

**如何通过Surface计算这些变量的？**

diffuse：

float oneMinusReflectivity = OneMinusReflectivity(surface.metallic);

brdf.diffuse = surface.color \* oneMinusReflectivity;

specular：

brdf.specular = lerp(MIN\_REFLECTIVITY, surface.color, surface.metallic);

roughness：

float perceptualRoughness = PerceptualSmoothnessToPerceptualRoughness(surface.smoothness);

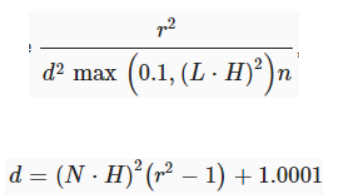
brdf.roughness = PerceptualRoughnessToRoughness(perceptualRoughness);

**如何计算BDRF？**

float3 DirectBRDF(Surface surface, BRDF brdf, Light light) {

return SpecularStrength(surface, brdf, light) \* brdf.specular + brdf.diffuse;}

**镜面反射强度如何计算？**



r代表粗糙度，N代表表面法线，L代表光照方向，V代表视角方向，H代表归一化的L+V，n代表4r+2。

**如何计算最终的光照结果？**

float3 GetLighting(Surface surface, BRDF brdf, Light light) {

return saturate(dot(surface.normal, light.direction)) \* light.color \* DirectBRDF(surface, brdf, light);}