

リスト 4.7	Fresnel.frag
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varying vec3 P;  
varying vec3 N;  
varying vec4 Refract;//屈折ベクトル  
varying vec4 Reflect;//反射ベクトル  
varying float factorReflect;//反射率  
uniform samplerCube envSampler;  
uniform float transparency;  
void main(void)  
{  
    vec3 L = normalize(gl_LightSource[0].position.xyz - P);  
    N = normalize(N);  
  
    vec4 ambient = gl_FrontLightProduct[0].ambient;  
    float dotNL = dot(N, L);  
    vec4 diffuse = gl_FrontLightProduct[0].diffuse * max(0.0, dotNL);  
    vec3 V = normalize(-P);  
    vec3 H = normalize(L + V);  
    float powNH = pow(max(dot(N, H), 0.0), gl_FrontMaterial.shininess);  
    if(dotNL <= 0.0) powNH = 0.0;  
    vec4 specular = gl_FrontLightProduct[0].specular * powNH;  
  
    vec4 colorReflect = textureCube(envSampler, Reflect.stp);//反射環境の色  
    vec4 colorRefract = textureCube(envSampler, Refract.stp);//屈折環境の色  
    vec4 colorT = mix(ambient + diffuse, colorRefract, transparency);  
    gl_FragColor = mix(colorT, colorReflect, factorReflect) + specular;  
}
```