

## The new material system in MBS V6 based on Blender (V2.83 ff.) Part 2

### **The Emissive Effect:**

For the coloring in Blender there are Color, Metallic and Roughness in addition to the ones already presented - Effects (hereinafter referred to as CMR for short), the additional effect of self-illumination, the emissive effect. This replaces the `_LS` and can be used alone or in conjunction with CMR.

The effect is used when luminous objects are to be present, such as spotlights, neon letters, advertisements, etc.

Another possibility would be an interior, but this can still be handled as an `_LC` object.

While CMR should always be used together, Emissive basically needs no other parameters than the color or strength of the self-luminous effect.

Emissive can be used as a texture, as an add-on to CMR, where all non-luminous parts must be kept black, or as a standalone color, but in doing so an additional material is calculated for the MBS which would be omitted in the case of a texture. In order to achieve this, a texture (gray tones) should be created which has the same structures as CMR.

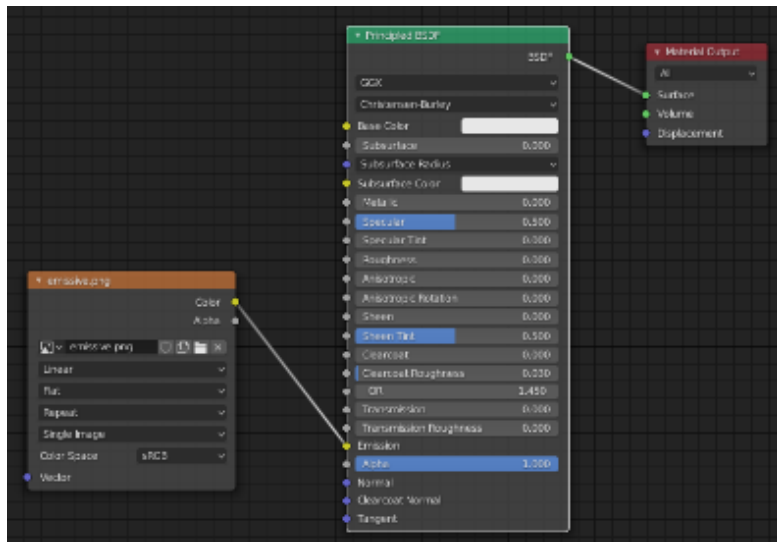
### **The emissive effect is shown here using an example in Blender:**

Let's take a simple basic texture eg: `Emissive_Color.png`, in the size of 64\*64 pixels.



The structure of the U/V map should be exactly the same in the normal or emissive texture if there should be 2 states, namely light and dark. In Blender, the color is assigned, but as an emissive, ie, as with every change in the `V5`, we have 2 states, one normal mapping, one emissive mapping.

This results in the following setting in the shader editor:

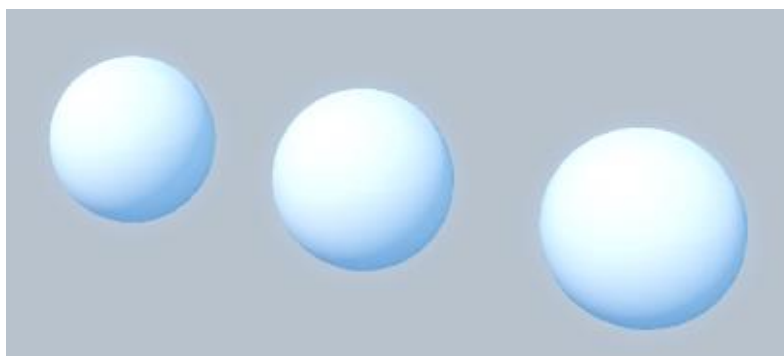


In the MBS this is then displayed as follows:

At night:



And by day:

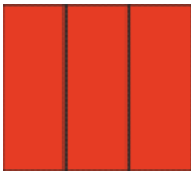


This is how the basic principle of the emission function works.

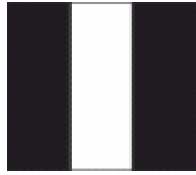
But now we want to implement this in such a way that, no matter which CMR was set, the object ends up as a material is defined.

For this we take the example **Part 1** and add the emissive node with these textures:

Texture\_Color.png



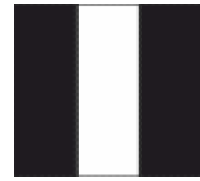
Texture\_Metallic.png



Texture\_Roughness.png



Texture\_Emissive.png



1st Ball (Left Segment):

0% Metallic

100% roughness

0% emissions

2nd ball (middle segment):

100% metallic

0% roughness

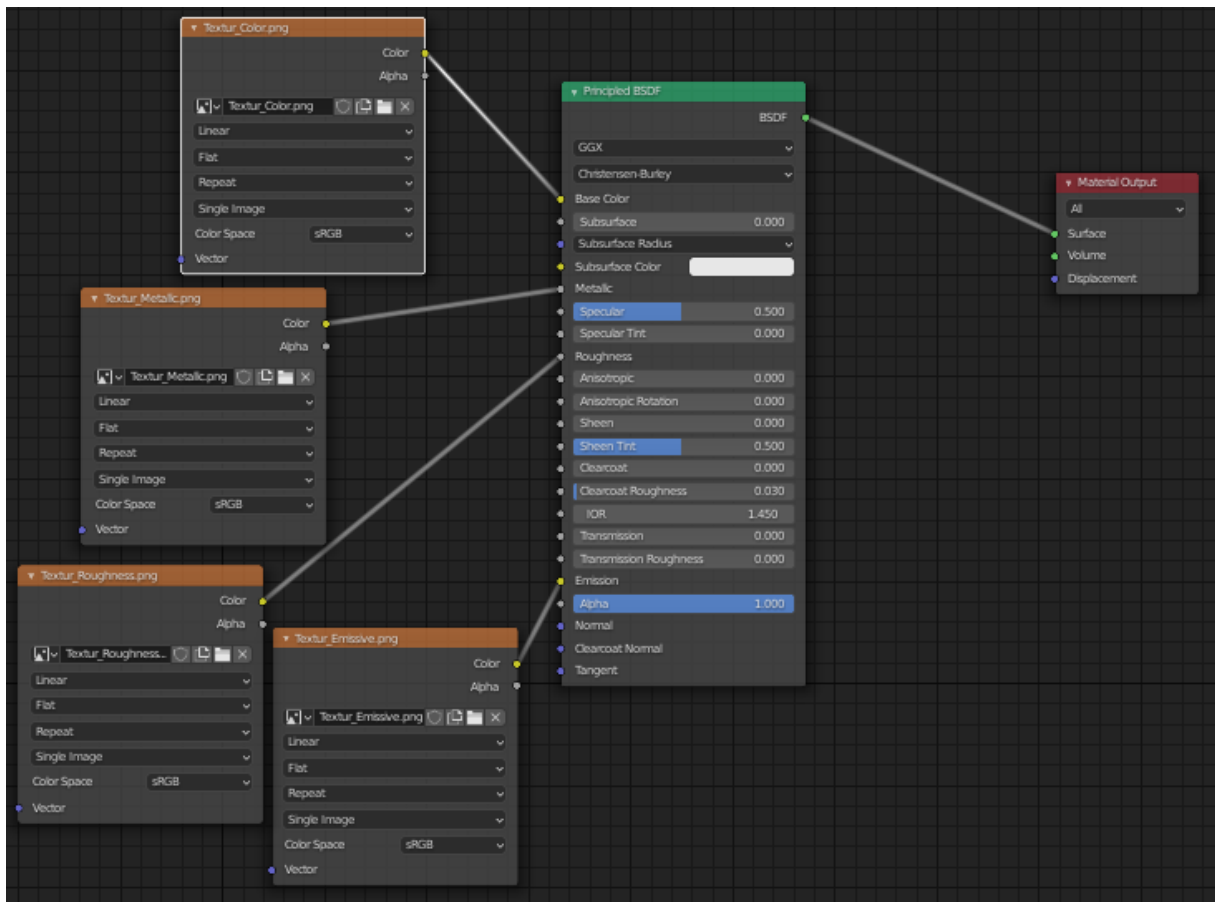
100% emissive

3rd Ball (Right Segment):

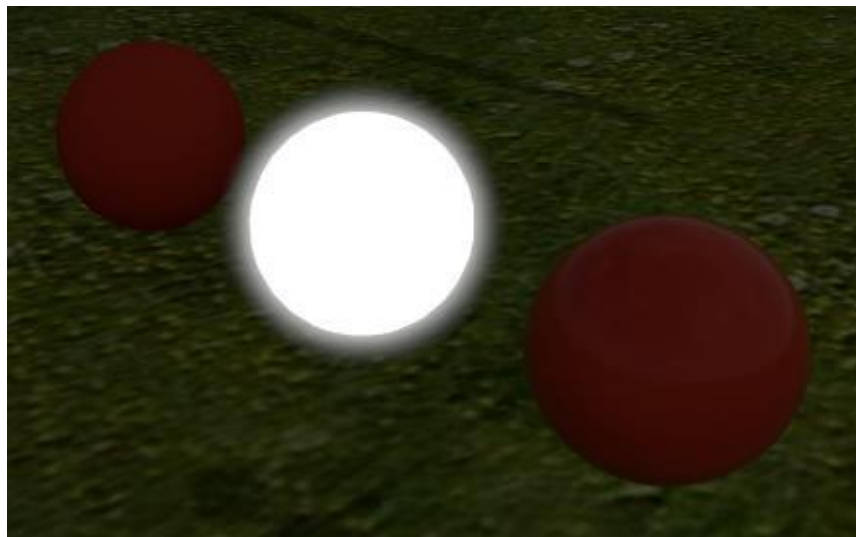
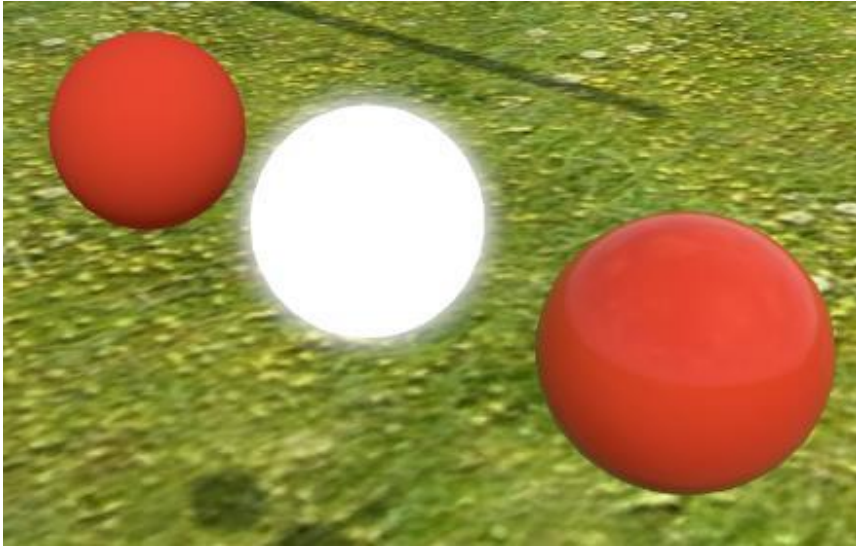
0% Metallic

0% roughness

0% emissions



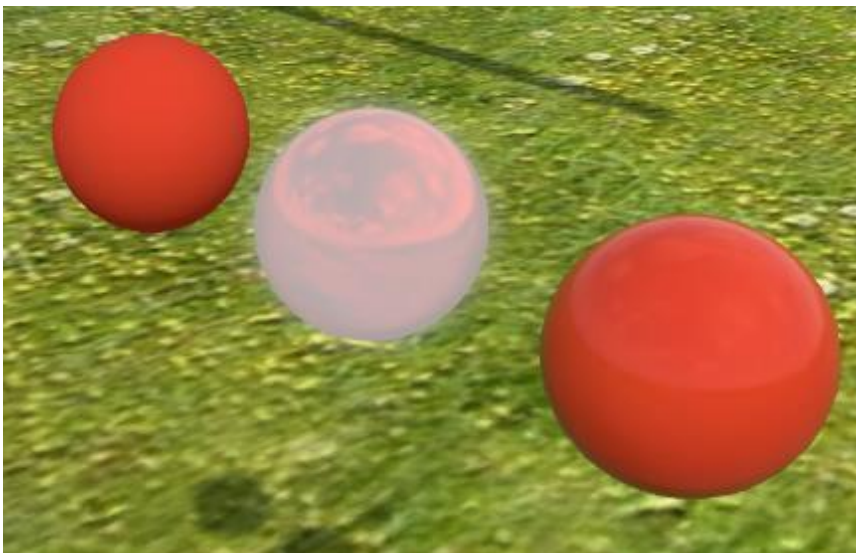
And the result in the MBS:



Now let's reduce the emissive value by 50%: (i.e. a gray value)



This results in the MBS:





If we want a luminous blue, the color must be set to black and the corresponding emissive value to blue.

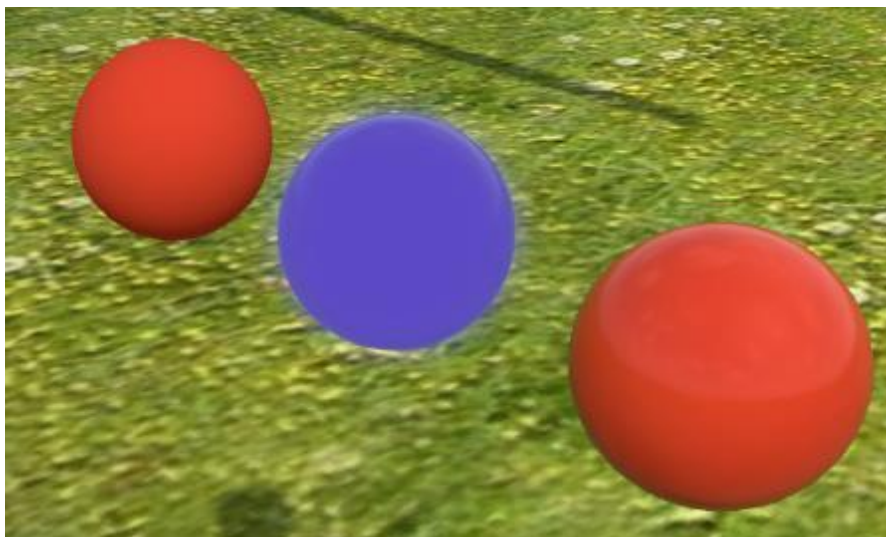
Texture\_Color.png

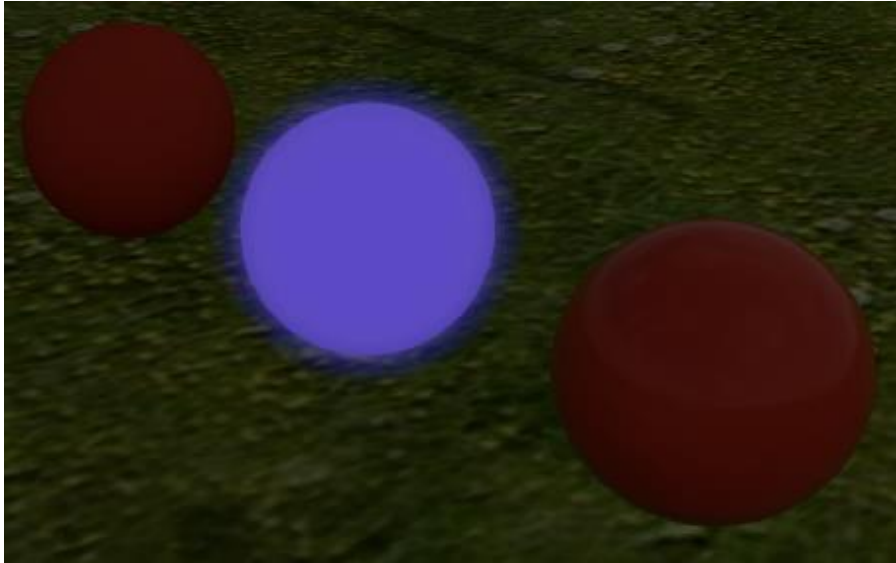


Texture\_Emissive.png



This results in the MBS:





So much for the function of the emissive in connection with CMR.