Week7 YU YUE

1. Provide a summary of the main concepts that went through about solar radiation (formulas are not needed)

Solar radiation refers to the outward transmission of energy by the sun in the form of electromagnetic waves, and refers to the electromagnetic waves and particle streams emitted by the sun into the universe. The energy transferred by solar radiation is called solar radiant energy.

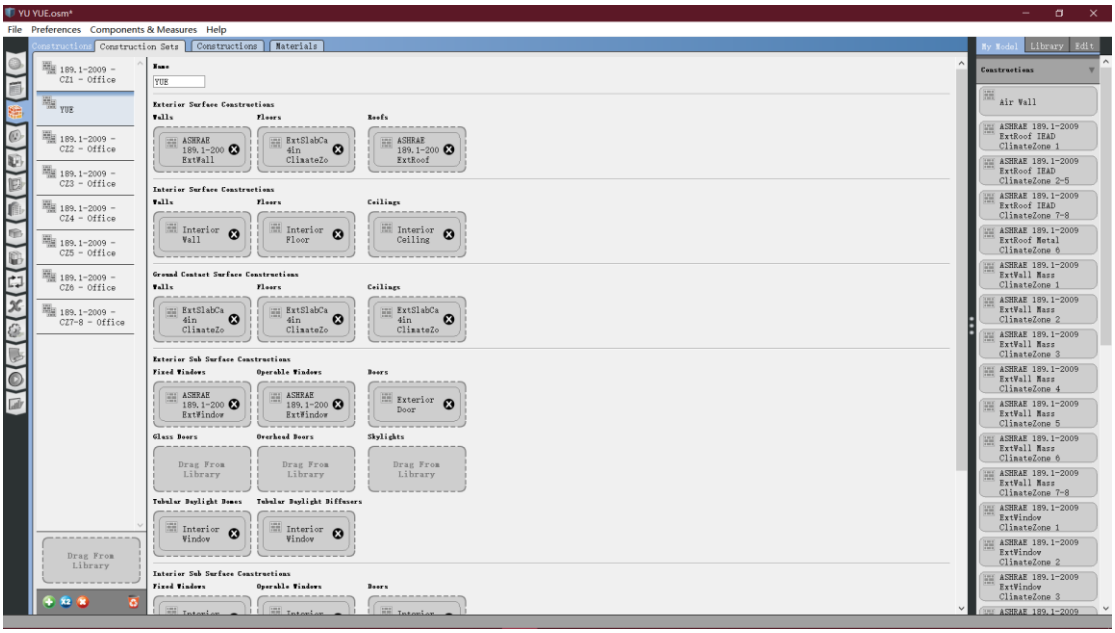
Approximately 50% of the solar radiation energy is in the visible spectral region (wavelength 0.4 to 0.76 microns), 7% is in the ultraviolet spectral region (wavelength <0.4 microns), 43% is in the infrared spectral region (wavelengths> 0.76 microns), and the maximum energy is at a wavelength of 0.475 Micron. Because the wavelength of solar radiation is much smaller than the wavelength of ground and atmosphere radiation (about 3 to 120 microns), solar radiation is often called short-wave radiation, and ground and atmospheric radiation are called long-wave radiation.

Solar radiation passes through the atmosphere, and part of it reaches the ground, called direct solar radiation; the other part is the absorption, scattering, and reflection of atmospheric molecules, atmospheric dust, and water vapor. Part of the scattered solar radiation returns to cosmic space, and another part reaches the ground. This part that reaches the ground is called scattered solar radiation. The sum of scattered solar radiation and direct solar radiation reaching the ground is called total radiation. After solar radiation passes through the atmosphere, its intensity and spectral energy distribution change. The solar radiation energy reaching the ground is much smaller than the upper bound of the atmosphere.

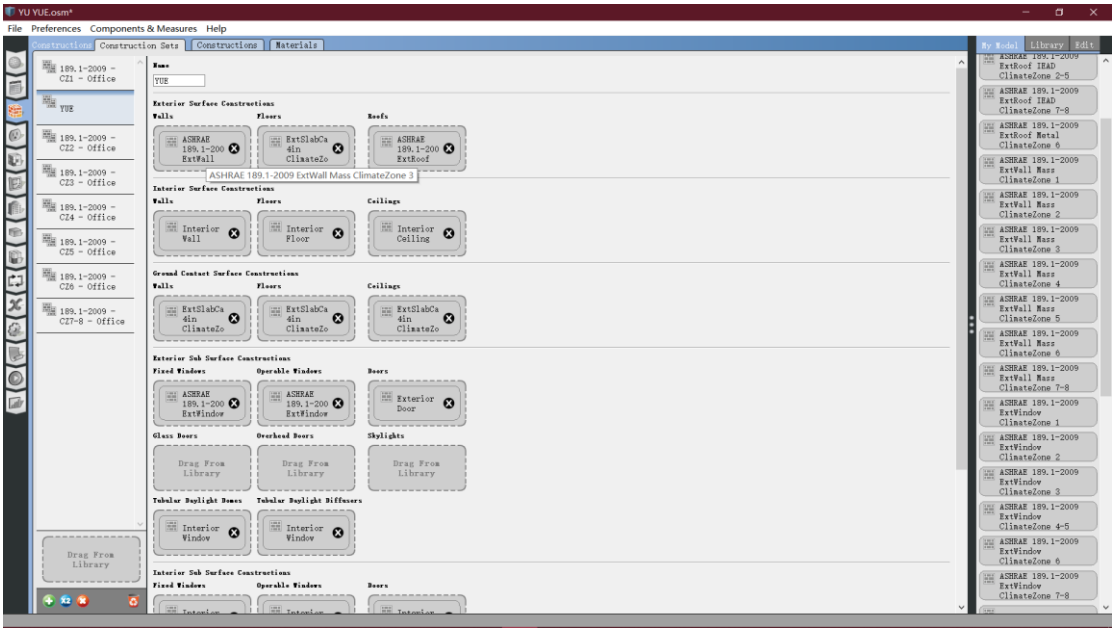
Solar radiation intensity refers to the strength of solar radiation reaching the ground. There are four main factors affecting the strength of solar radiation: latitude, weather conditions, altitude, and length of sunshine

2. Open studio

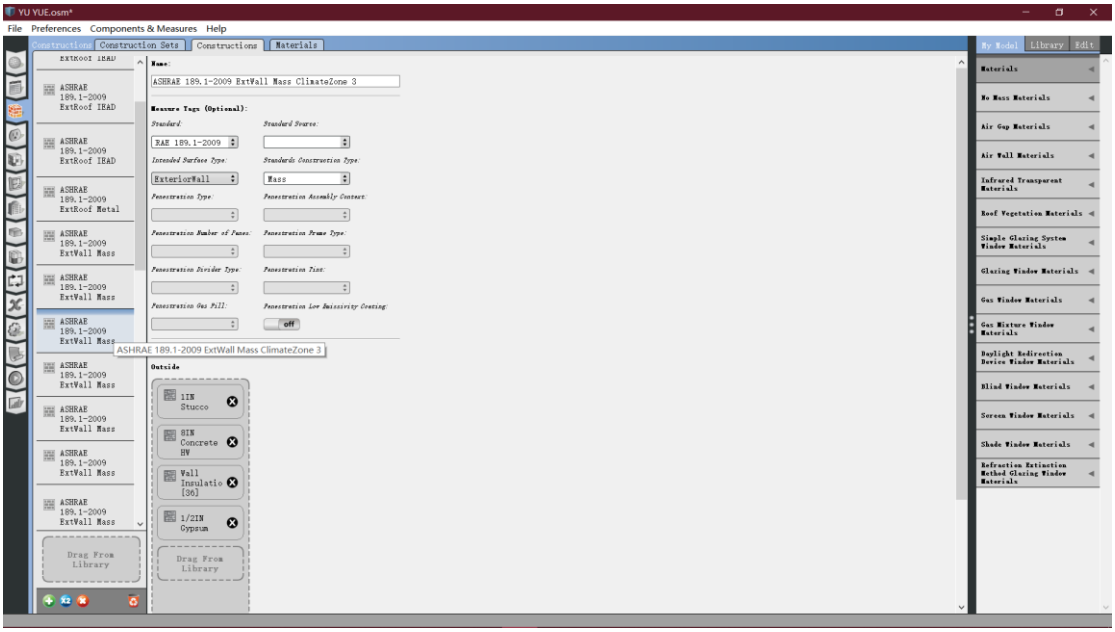
1) Modifying Construction



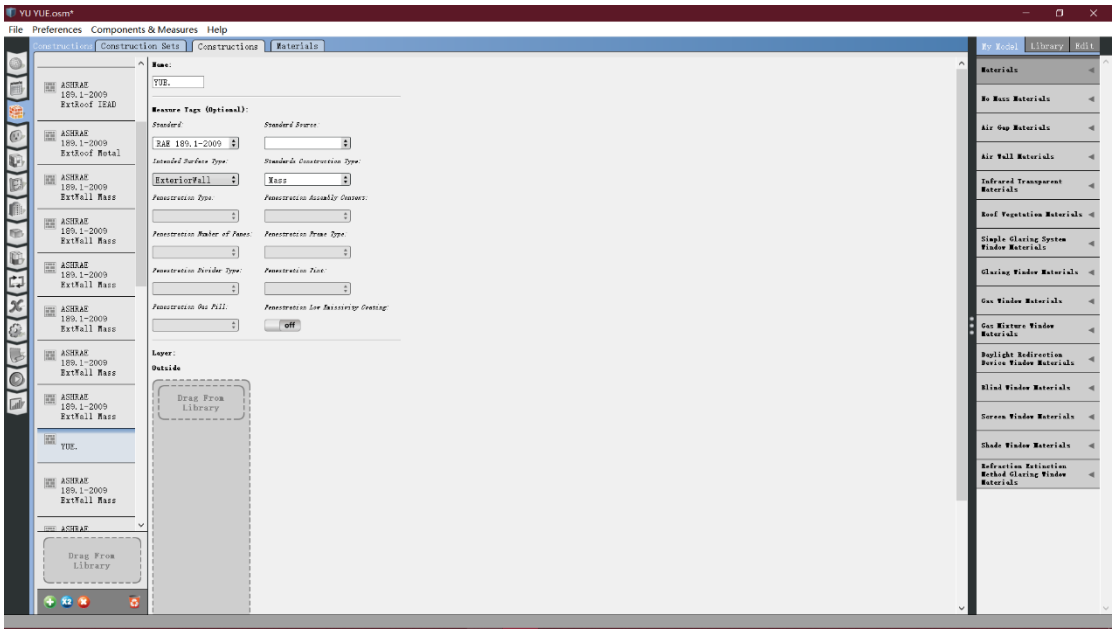
2) change some of the construction in our customized construction set:



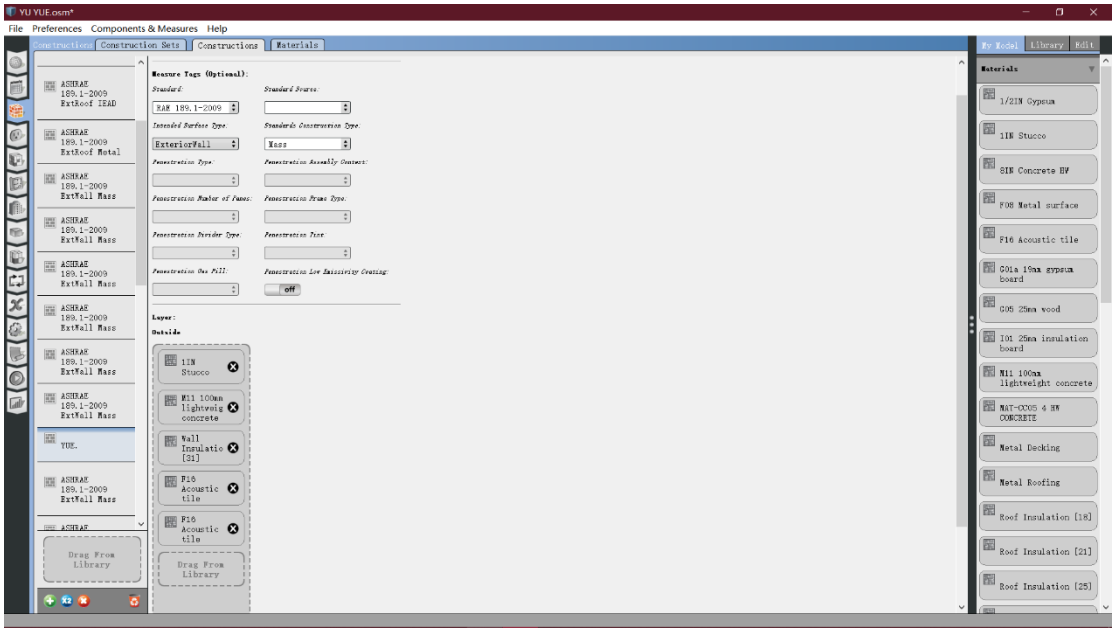
3) Check existing constructions' properties:



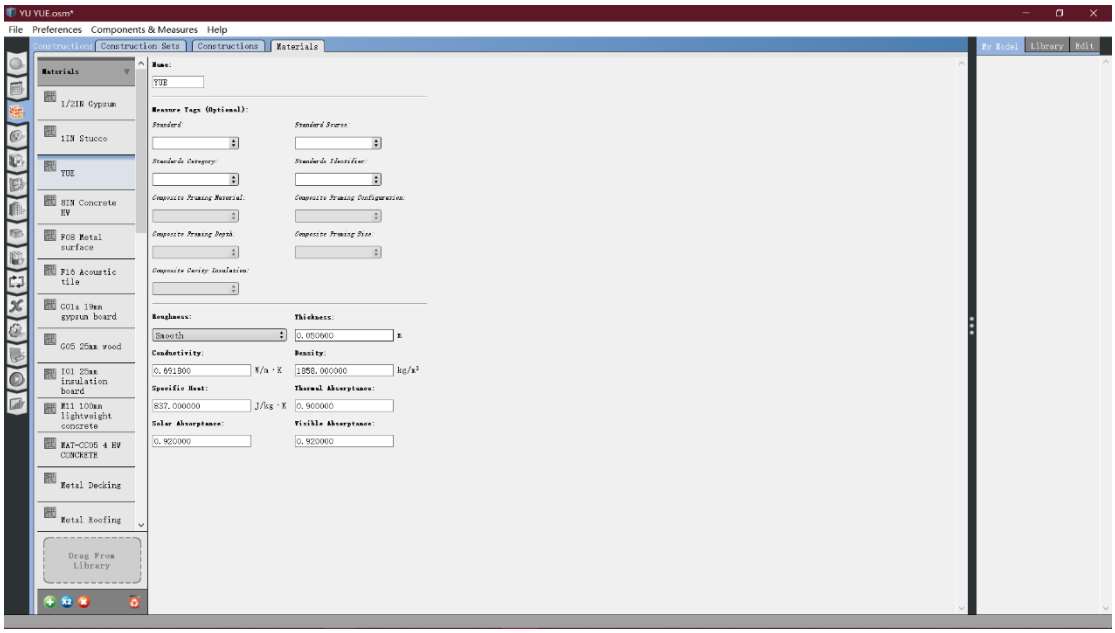
4) Create a custom one and then remove existing layers



5) Add the layers from outside to the inside



6) Define new materials, change the thickness or properties



7) Use customized materials to modify customized constructions, and use customized constructions to modify customized construction set