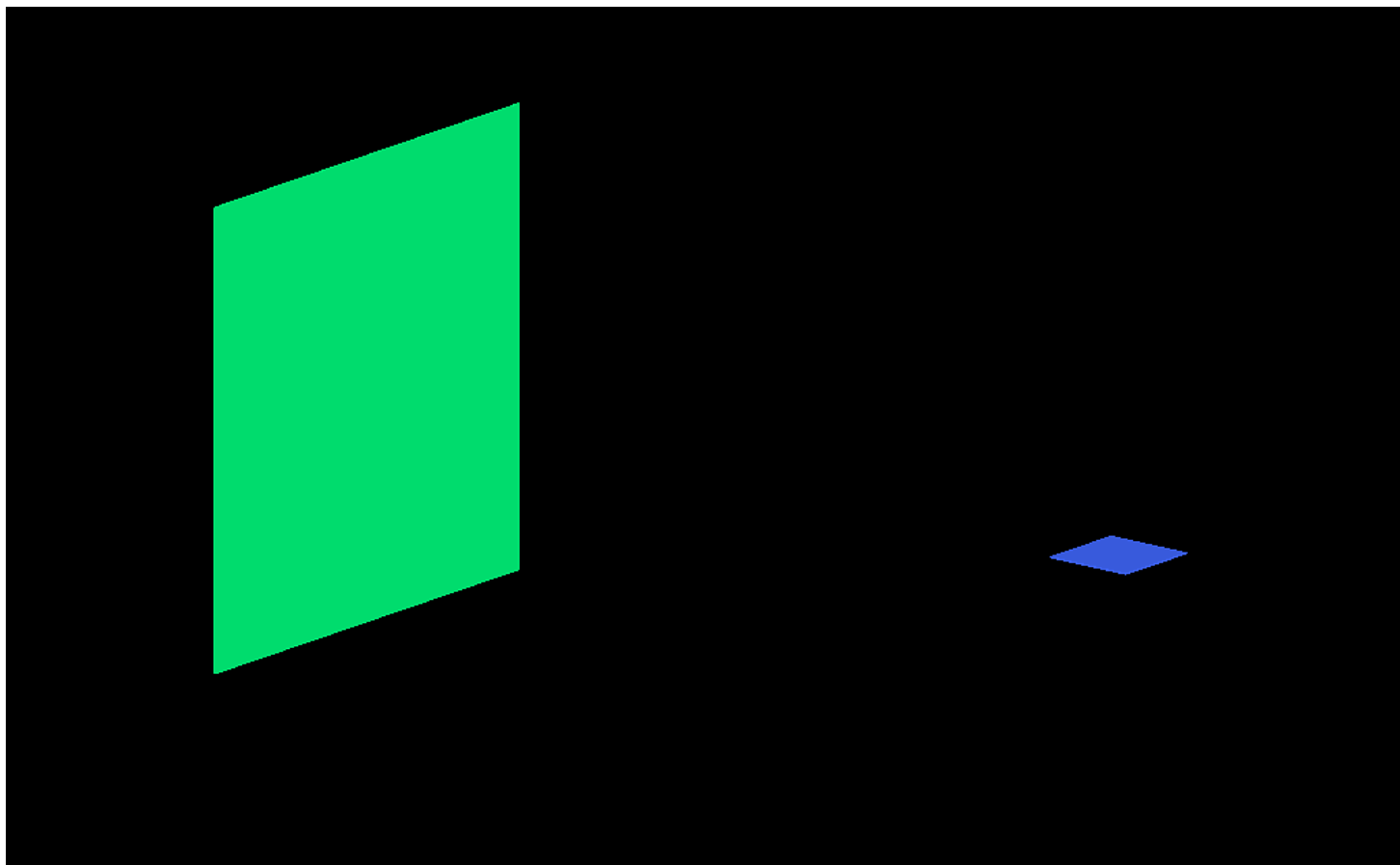# Homework 2, 2020.7.4

## Geometry I

**1 Construct two boxes in Geant4. 在Geant4 中画两个盒子。**



Box1: Size 0.5cm * 1m * 1m, vaccuum, its centre is located at (-20,0,0) m.

盒子1: 尺寸0.5cm * 1m * 1m，真空，中心位于(-20,0,0) m。

Box2: Size 1mm * 5m * 5m, made of Iridium, its centre is located at (0,0,0) .

盒子2: 尺寸 1mm * 5m * 5m，材料为铱，中心在(0,0,0)。

Note: The definition of Iridium is

```
G4Material* Ir = new G4Material("Iridium",77.,192.217*g/mole,22.56*g/cm3);
```
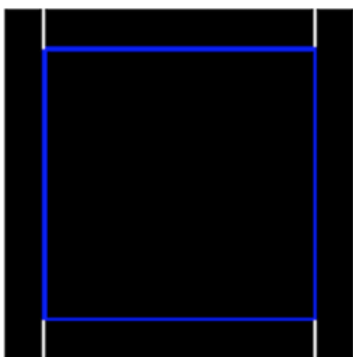
The definition of vaccuum is

```
G4Material * vacuum = new G4Material("Vacuum", 1.0 , 1.01*g/mole, 1.0E-25*g/cm3,kStateGas, 2.73*kelvi
```

Shortcut 捷径：

Copy examples/basic/B1, 复制B1例子，在 src/B1DetectorConstruction.cc 中直接改。

## 2 Build a micro pore 制造一个微孔



This micro pore consists of 8 parts. 4 glass walls outside and 4 Iridium walls inside. 一个孔由8个部件组成，周围4个玻璃几何体，里面4个铱几何体。

Size 尺寸： 外周 $100 \times 100\,\mu\mathrm{m}$, 内周 $80 \times 80\,\mu\mathrm{m}$, 铱膜厚度 $50\,\mathrm{nm}$. 孔长度 $4\,\mathrm{mm}$.

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2020年7月10日晚8点前提交 Geant4 可视化截图（如第一张图) 与 DetectorConstruction.cc 至 huzhensong@smail.nju.edu.cn

有问题欢迎讨论！