Reflections in DD4hep

M.Frank
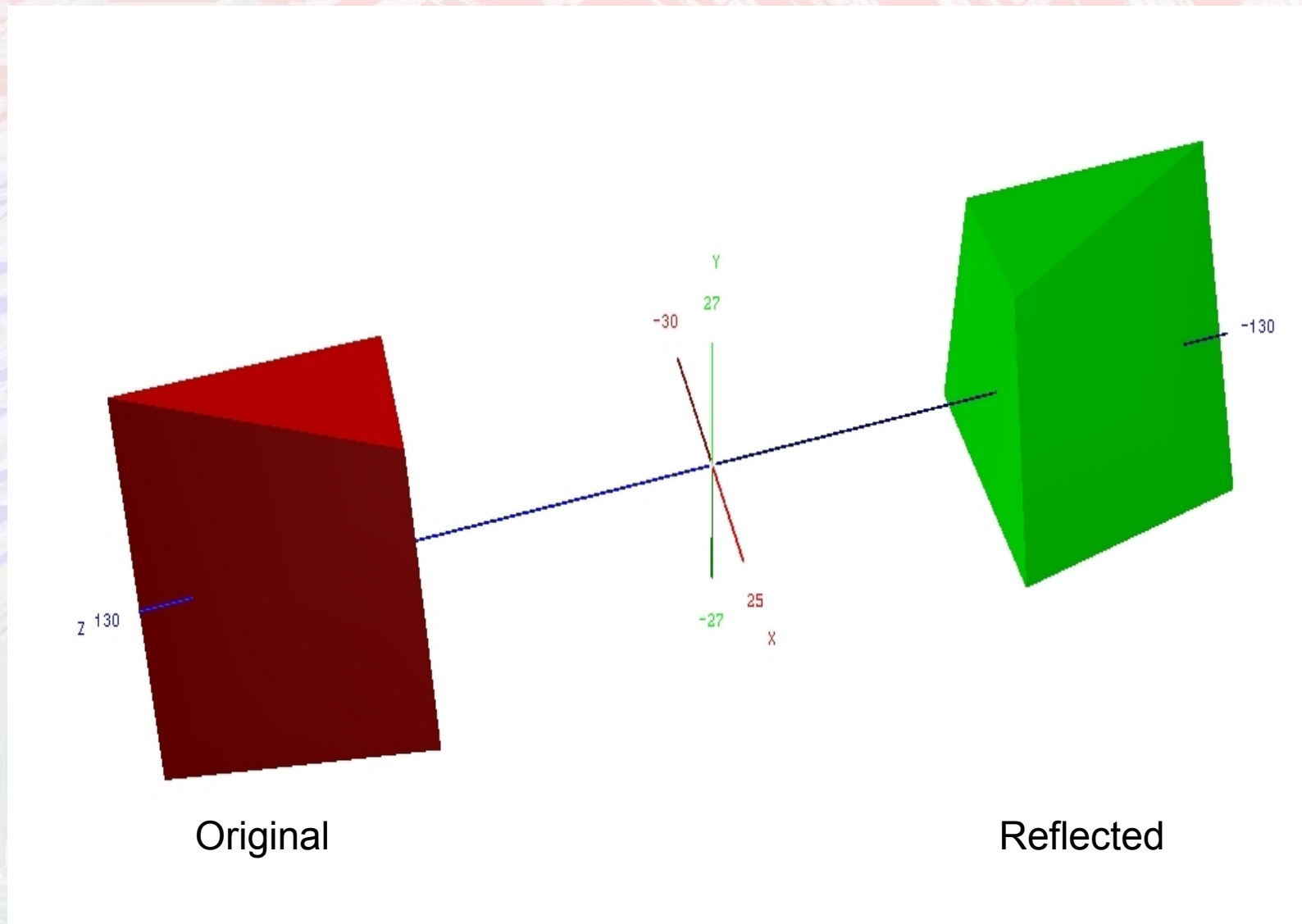
Reflected Volumes: Usage

```
Rotation3D  rot3D(RotationZYX(...));
Position      pos3D(....);
if ( reflect )
    rot3D = Rotation3D(1., 0., 0., 0., 1., 0., 0., 0., -1.) * rot3D;
Transform3D tr(rot3D, pos3D);
pv = assembly.placeVolume(volume,tr);
```
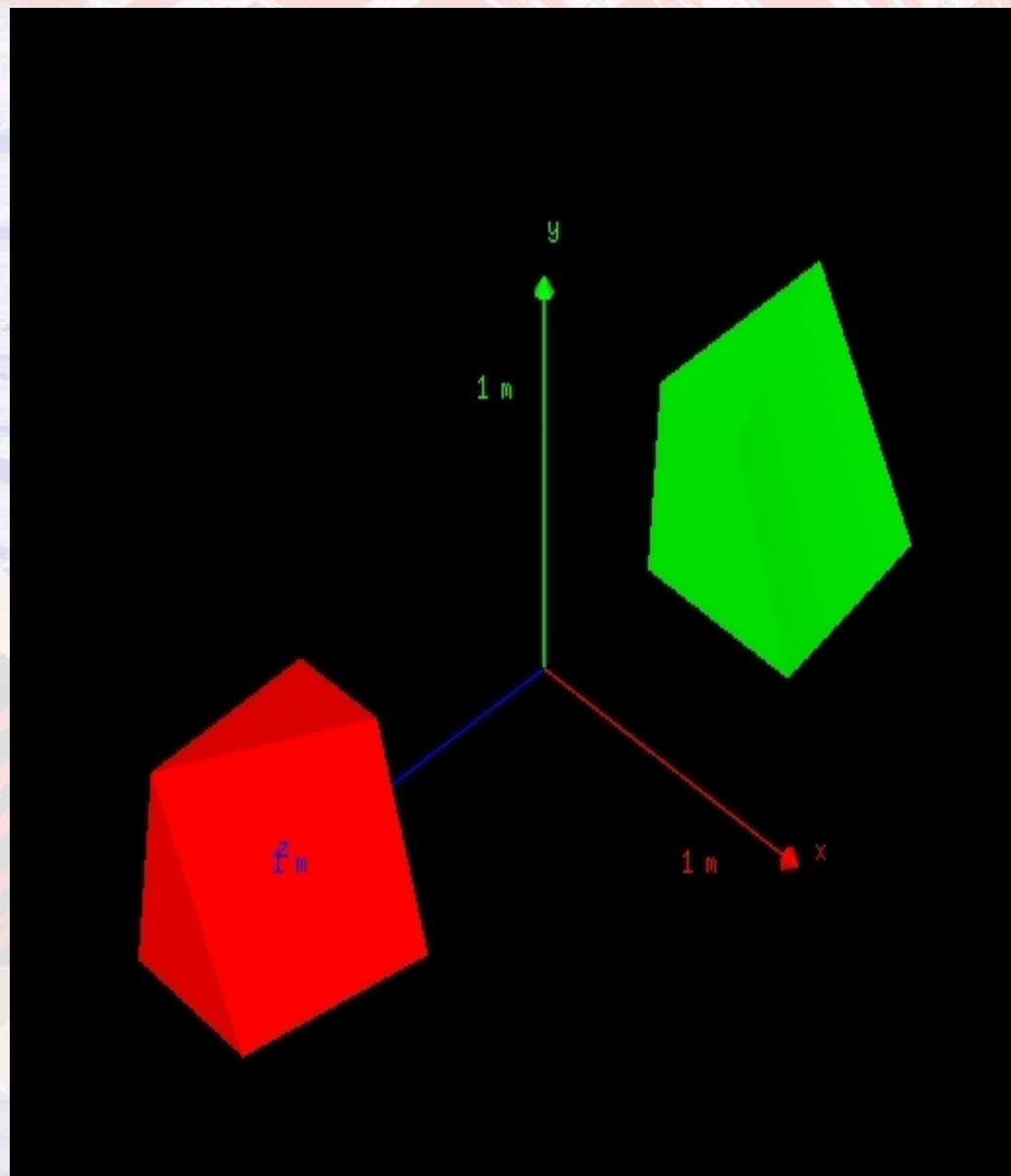
All magic inside here
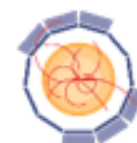
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Reflected Volumes: TGeo

Original   Reflected
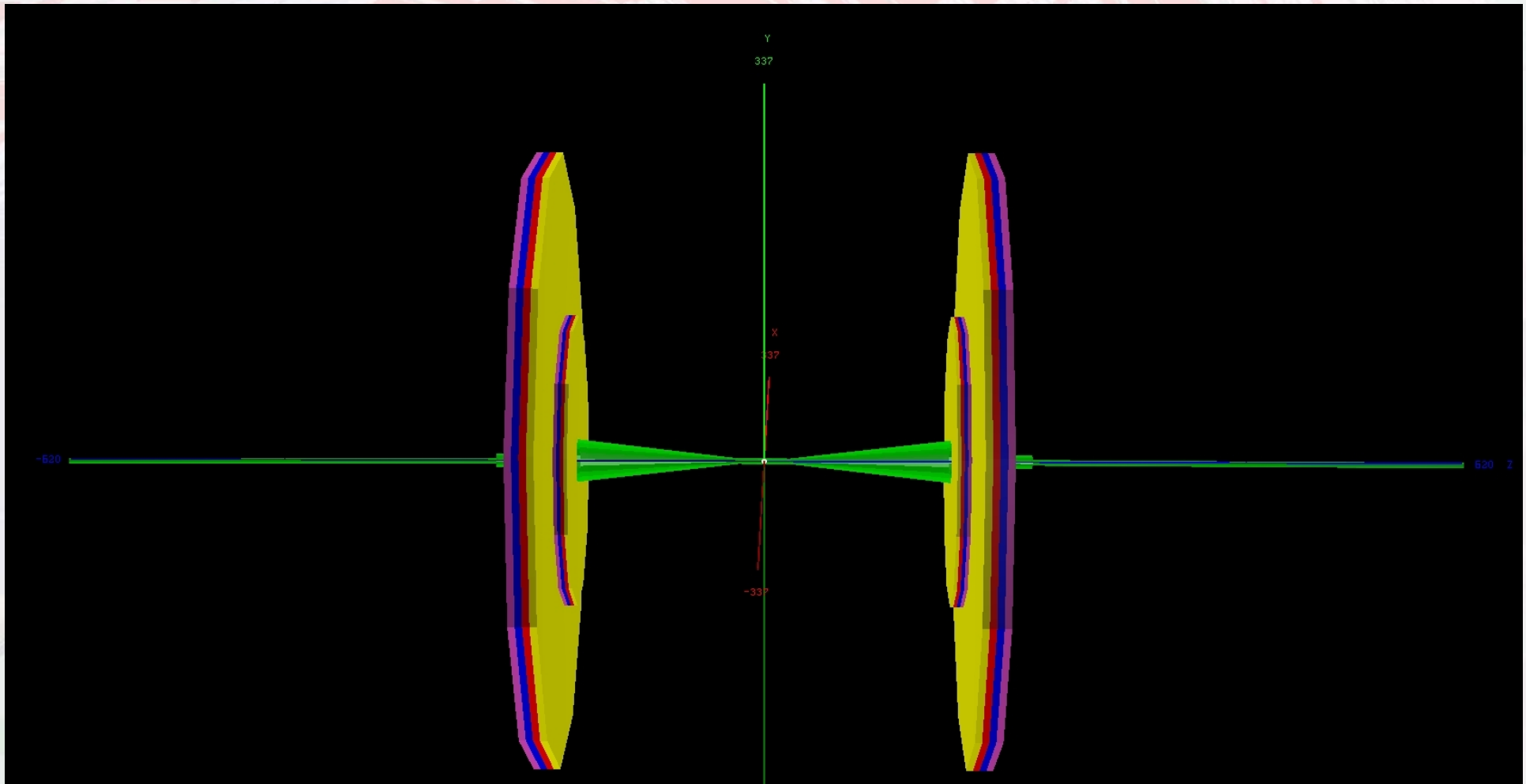
Reflected Volumes: Geant4

Reflected DetElements: Usage

```
DetElement det = …;           // Some part of a detector
Transform3D refl_trafo(...);  // Pure placement

auto reflected = det.reflect(name+"_reflected",x_det.id());
auto pv = assembly.placeVolume(reflected.second,
                                   refl_trafo);
reflected.first.setPlacement(pv);
```

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Reflected Detector Elements

Reflected   Original

300 Y

Reflection Y / XZ

Reflection
Z / XY

-300

300 X X

-100

100 Z Z

Reflection X / YZ

Master Copy