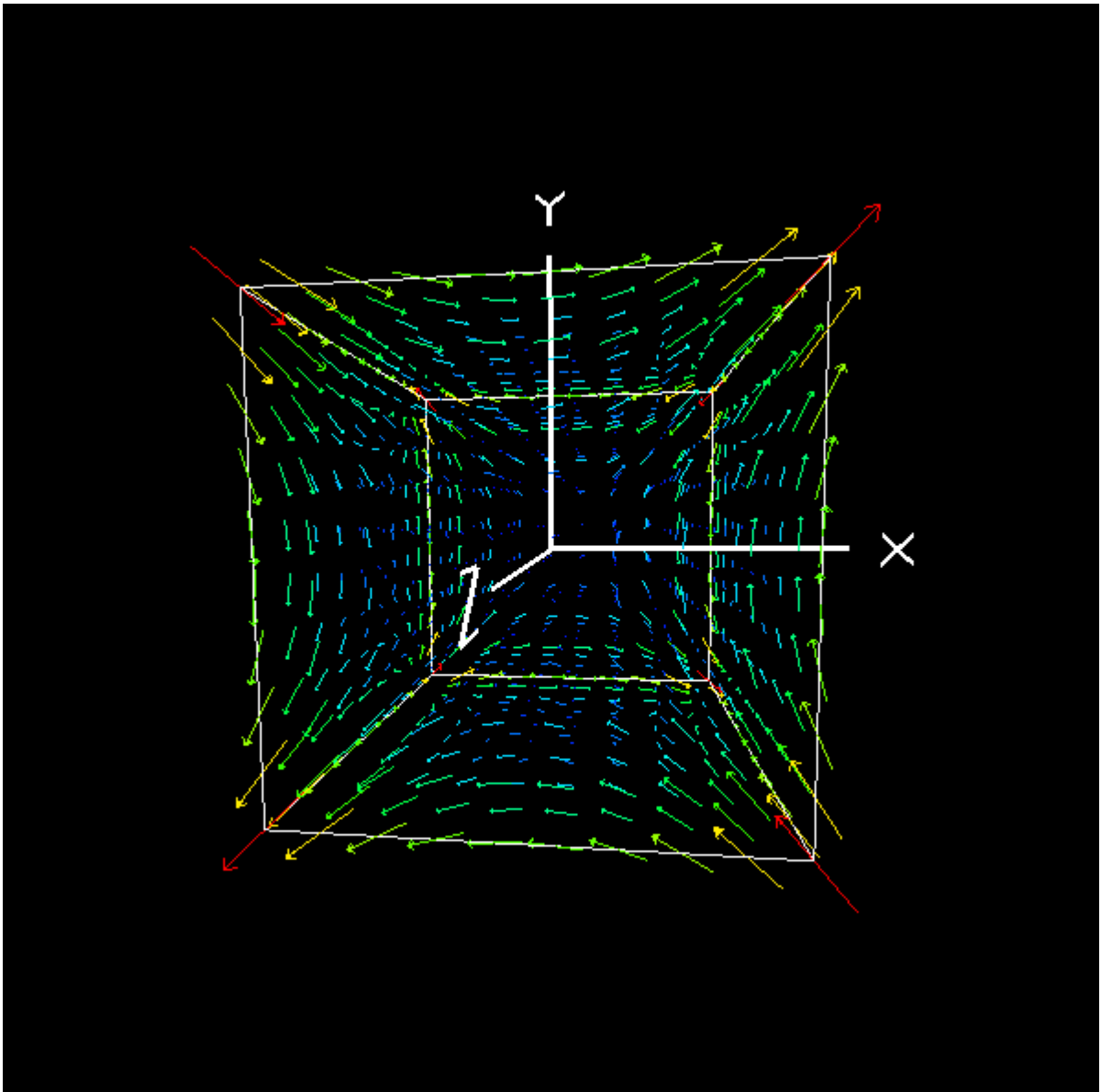


## Vector Field Visualization

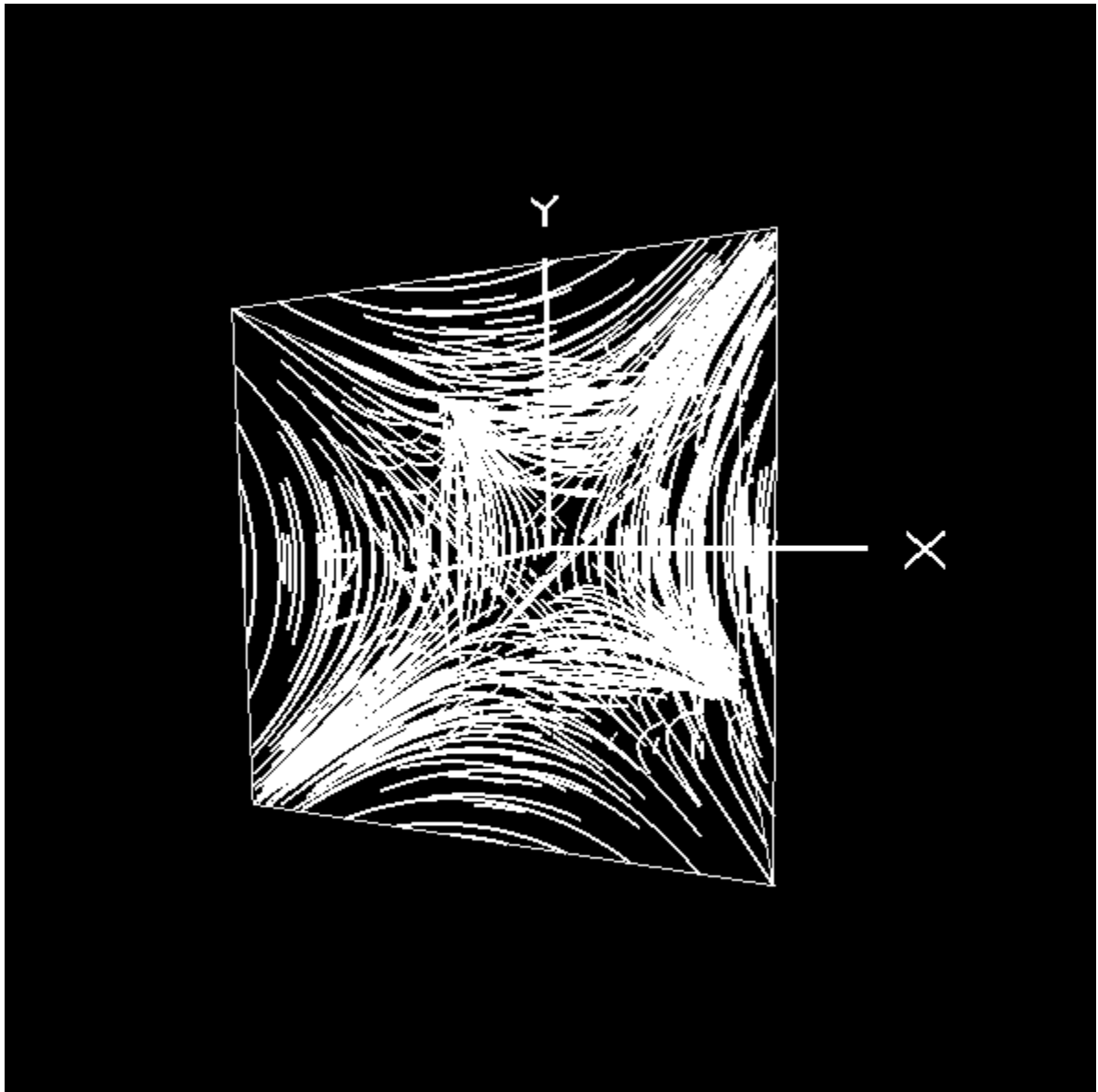
CS 553

Project 6

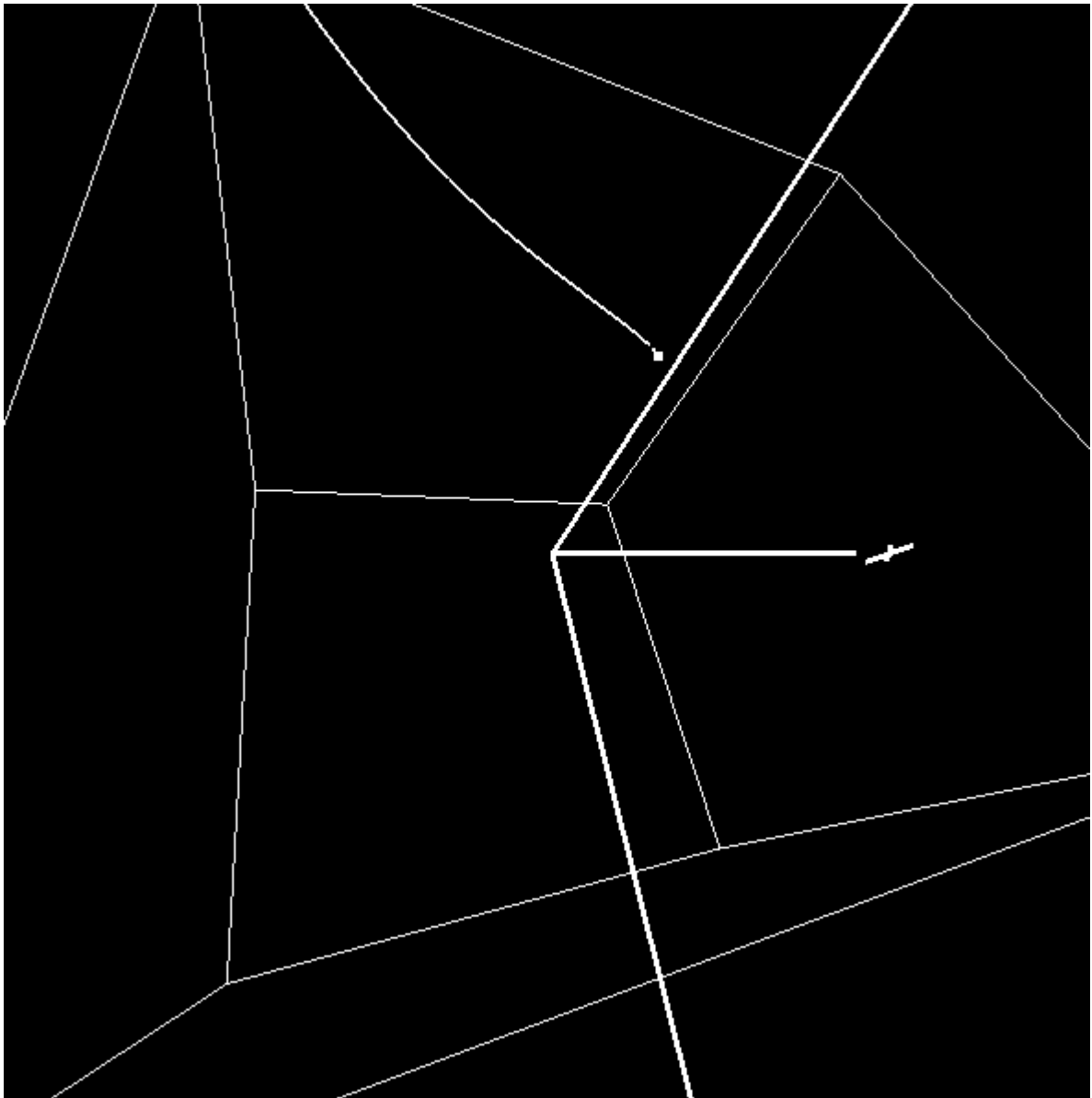
William Leslie



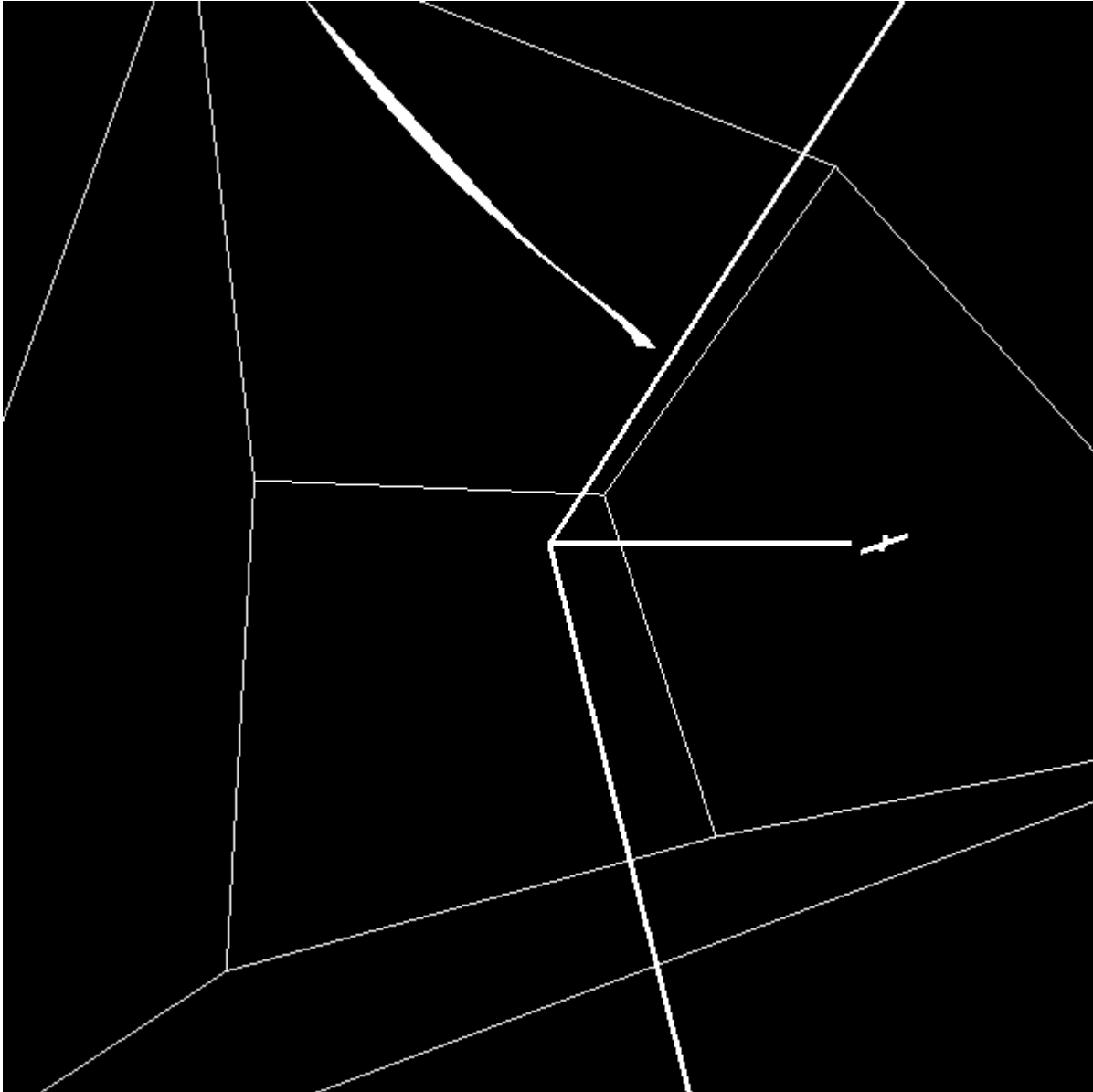
Colored vector arrows.



Vector streamlines.



Probe with streamline.



Probe with Ribbon.

Code for making the ribbon:

```
glBegin(GL_LINE_STRIP);
glVertex3f(Xvalue, Yvalue, Zvalue);
glVertex3f(Xvalue - .05, Yvalue, Zvalue);
glEnd();
std::vector<vec3> stream1 = Streamline2(Xvalue, Yvalue, Zvalue);
std::vector<vec3> stream0 = Streamline2(Xvalue-.05, Yvalue, Zvalue);
glBegin(GL_QUAD_STRIP);
for (int i = 0; i < stream1.size(); i++){
    if (i >= stream0.size()) break;
    glVertex3f(stream1.at(i).x, stream1.at(i).y, stream1.at(i).z);
```

```
        glVertex3f(stream0.at(i).x, stream0.at(i).y, stream0.at(i).z);  
    }  
    glEnd();
```

This calls a modified version of the streamline code that returns a vector of the positions of the vertices. Once the lists of vertices are built up, a quad strip can be drawn between the two streamlines.