



#normal  
#position



OpticalSurface< T, U >

```
+ OpticalSurface(const
  vec3< T > &position,
  const vec3< T > &normal)
+ virtual ~OpticalSurface
  ()=default
+ const vec3< T > & getNormal
  () const
+ void setPosition(const
  vec3< T > &newPosition)
+ virtual vec3< T > getIntersection
  Point(const Ray< T, U > &ray)
  const =0
+ virtual std::pair<
  bool, vec3< T > > intersects
  (const Ray< T, U > &ray) const =0
+ virtual void generatePoints
  (std::ofstream &outFile)
  const =0
```