A nice little figure illustrating an infinitesimal neighbourhood around a given point. This was used as a figure in the somewhat tedious verification of a Green's function, done in one of the appendixes.

```
<< peeters`
```

```
(*relative to ~/physicsplay*)
peeters`setGitDir[ "../project/figures/GAelectrodynamics" ]
```

```
peeters`
```

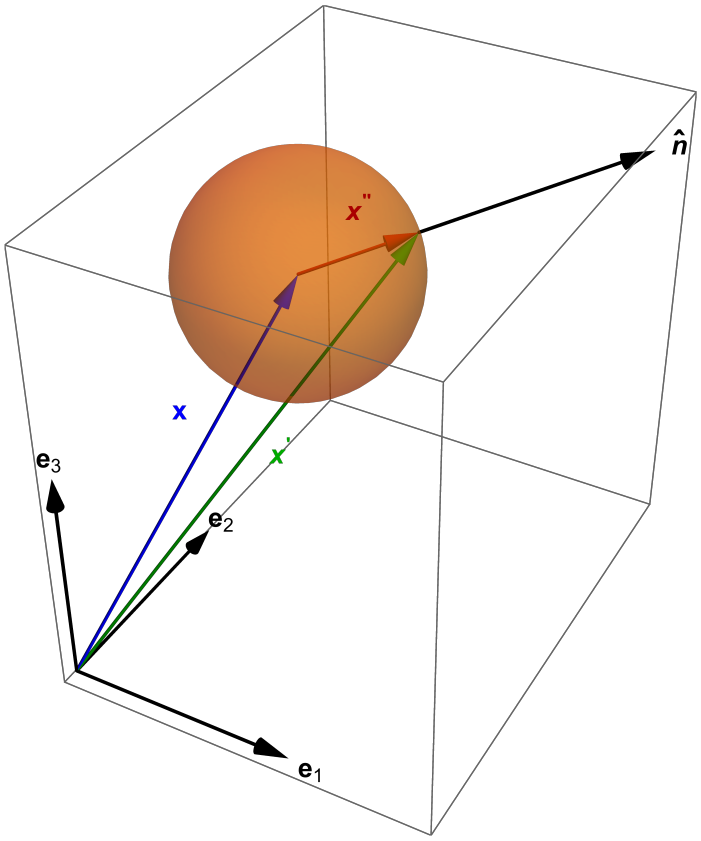
```
/Users/pjoot/project/figures/GAelectrodynamics
```

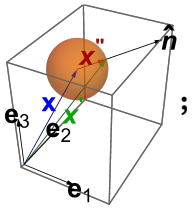
```
ClearAll[e1, e2, e3, x, xp, xpp, o, r, ncap]

o = {0, 0, 0};
{e1, e2, e3} = IdentityMatrix[3];
x = {1, 2, 3} / 2;
r = 0.5;
ncap = {1, 1, 0.3} // Normalize;
xpp = r ncap;
xp = x + xpp;

tArrow := Arrow[Tube[#]] &;
bold = Style[#, Bold] &;
fs = Style[#, FontSize → 14] &;
esub = fs[Subscript[ "e" // bold , #]] &;

Graphics3D[ {
  Black,
  tArrow[{o, e1}],
  tArrow[{o, e2}],
  tArrow[{o, e3}],
  Blue,
  tArrow[{o, x}],
  Text["x" // bold // fs, x / 2 + e3 / 3],
  Green // Darker,
  tArrow[{o, xp}],
  Text["x'" // bold // fs, 0.6 xp - e3 / 5],
  Red // Darker,
  tArrow[{x, xp}],
  Text["x''" // bold // fs, x + xpp / 2 + e3 / 5],
  Black,
  Text["n̂" // bold // fs, xp + 1.1 ncap],
  tArrow[{xp, xp + ncap}],
  Text[esub[1], 1.1 e1],
  Text[esub[2], 1.1 e2],
  Text[esub[3], 1.1 e3],
  Opacity[0.5],
  Orange,
  Sphere[x, r]
 }]
```



p =  ;

```
peeters`exportForLatex["neighbourhoodFig1", p]
```

{neighbourhoodFig1.eps, neighbourhoodFig1pn.png}