

Figure 1 Figure 2

Given < and while is the distance between

PE1 = C\* , PE1 where one of the spheres has radius less than as in figure 1

PE2 = C\* , PE2 where both spheres have as in figure 2

Lemma: |PE2| >| PE1|.

Proof:

|C\* | | C\* |

Cancel C and from both sides and then remove the absolute value

>

Take the cube root of each side

>

Take the reciprocal for each side

<

Knowing that:

and

Thus our assumption is correct that |PE2| >| PE1|