



Fig. 411.05 Four Spheres Lock as Tetrahedron:

- A. A single sphere is free to rotate in any direction.
- B. Two tangent spheres although free to rotate in any direction must do so cooperatively.
- C. Three spheres can rotate cooperatively only about respective axes which are parallel to the edges of the equilateral triangle defined by joining the sphere centers, i.e. each sphere rotates toward the center of the triangle.
- D. Four spheres lock together. No rotation is possible, making the minimum stable closest-packed-sphere system: the tetrahedron.