

Sphere packing in cylinders

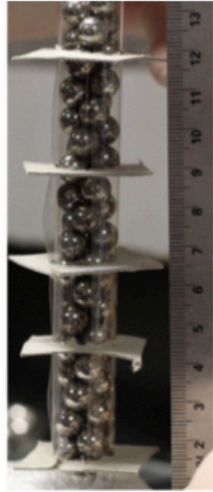
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What is the best way to pack spheres in a cylinder?



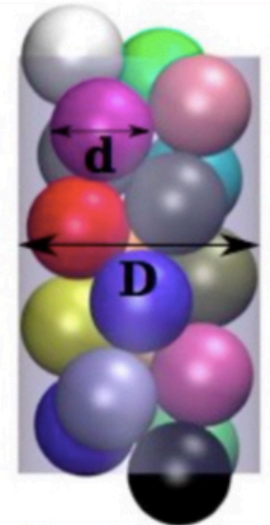
Ball Bearings



Bubbles

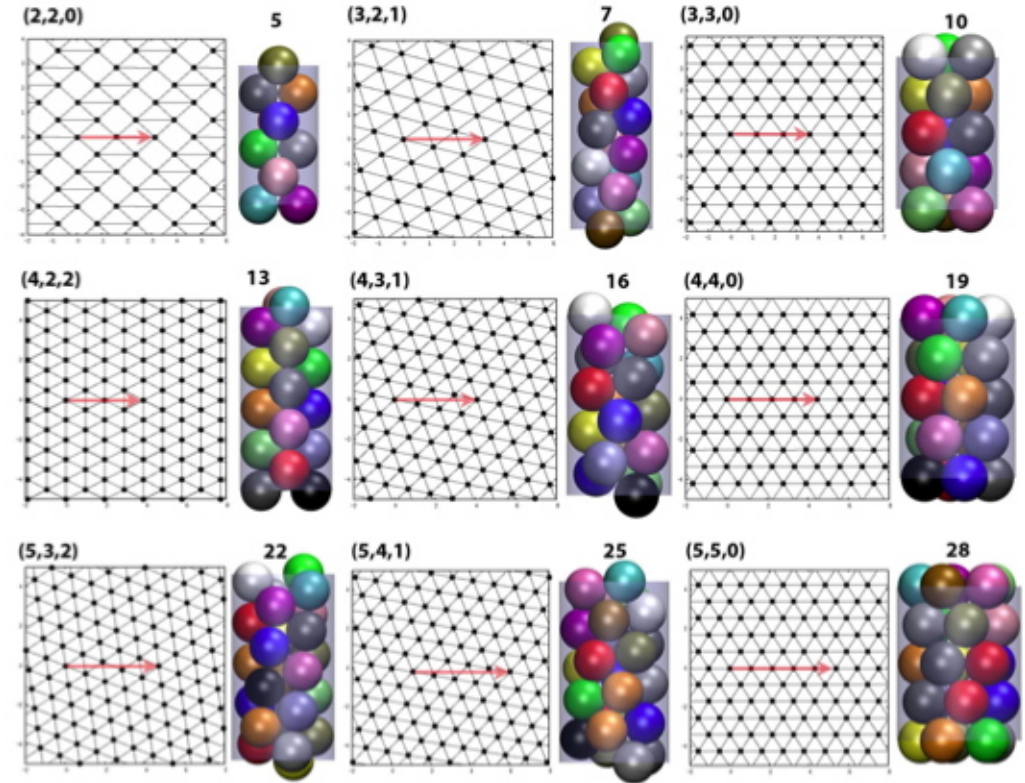


Hydrogel Spheres



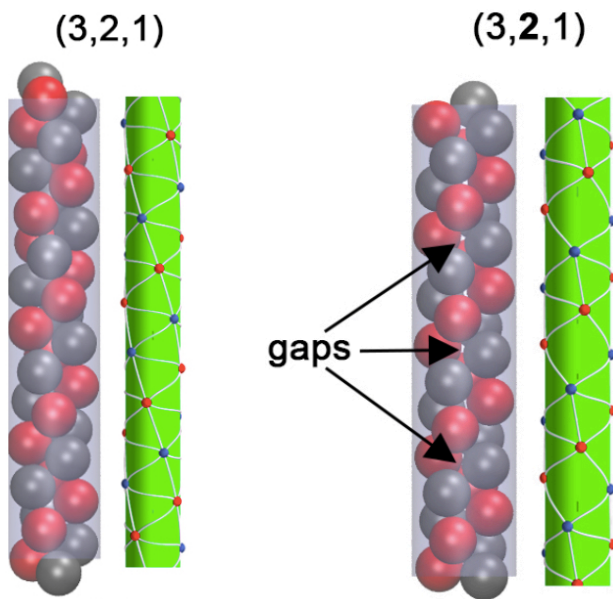
Hard Sphere Simulations

Simulations and experiments have yielded dozens of periodic helical structures as the ratio of the cylinder diameter (D) to the sphere diameter (d) is varied.

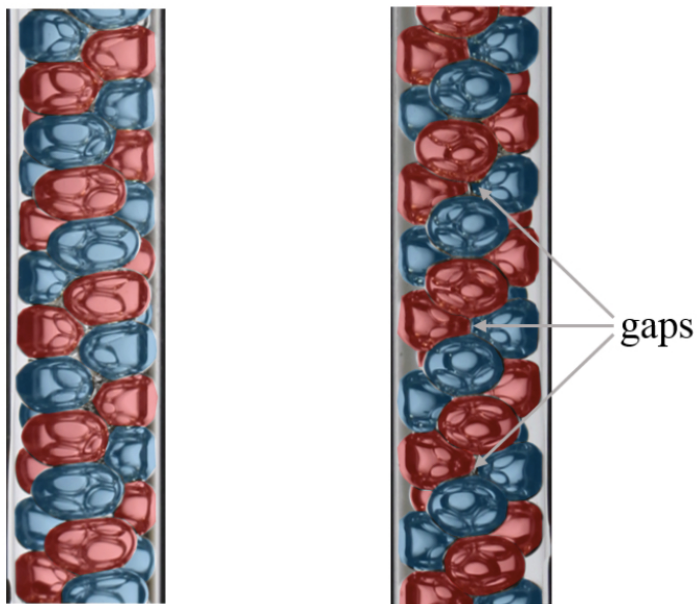


Packing hard spheres in a cylinder

Hard sphere packing



Bubbles in a tube



Phase diagram for **soft spheres** in a cylinder (by minimisation of enthalpy)

