Interpolation Formulas for the Packing Fraction of Binary Hard Spheres[1] NAOKI IWAMOTO, HIROKI SAWAMARU, Department of Advanced Materials Science, Faculty of Engineering, Kagawa University, 2217-20 Hayashi-cho, Takamatsu 761-0396, Japan — For several given structures, such as simple cubic, face-centered cubic, body-centered cubic and hexagonal close packing, that are formed by hard spheres of unit radius, packing of the remaining space with these structures formed by smaller hard spheres of decreasing radius is studied numerically. Random close packing of the remaining space is also considered by introducing infinitesimal gravity. The packing fraction is calculated numerically as a function of the radius of the smaller spheres and the analytic expressions for the packing fraction that accurately express the simulation results are derived.

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