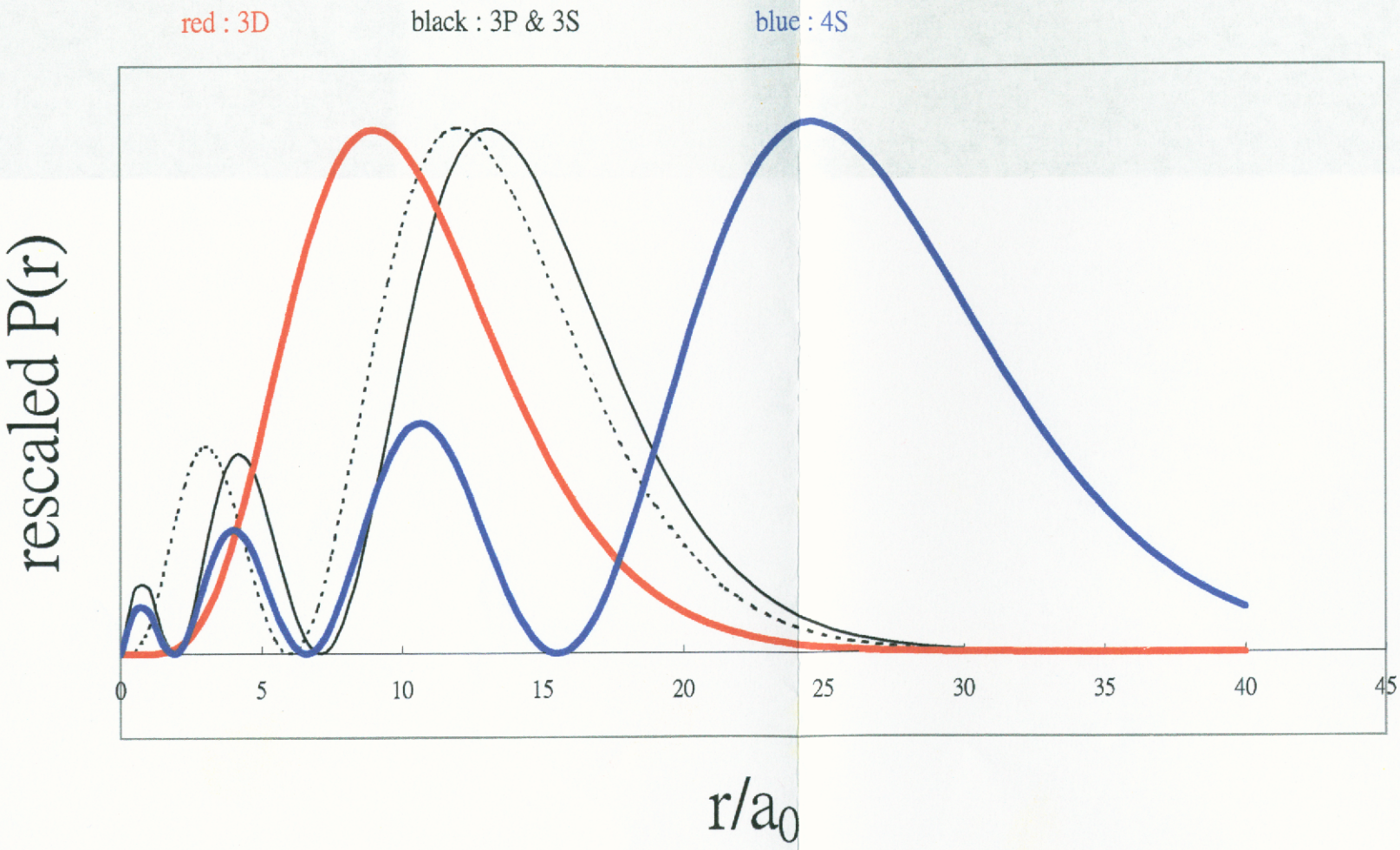Radial distribution functions, $P(r) = r^2 R^2(r)$