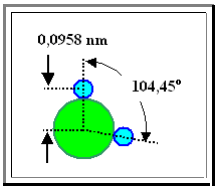
Exercise 3.2-1 Maximum Polarization of Water

Illustration

Looking into some standard reference book with numbers, e.g. the ***"CRC** Handbook of Chemistry and Physics*", you find that the structure of a water molecule and its dipole moment is



- $\mu_{water} = 1{,}87 \cdot 10^{-18}$ **e.s.u.**.

- **1.** How large would the *dielectric constant* of water be if *all* water dipoles are completely oriented into the field direction? Or, if you realize right away that this question does'nt make much sense:
- **1a.** How large would the *polaization* of water be if *all* water dipoles are completely oriented into the field direction?
- And what, for gods sake, are **e.s.u.**?

Link to the solution