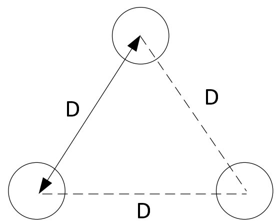
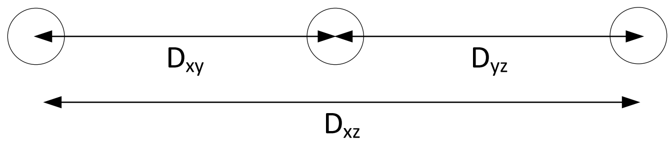
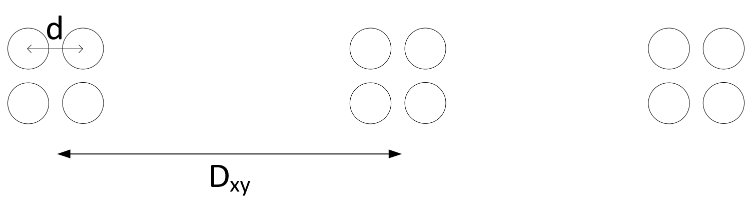
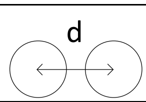
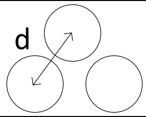
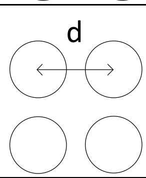
Yani's cheap plastic handout on transmission line parameters.

- All conductors are assumed to be stranded.

Configuration & example diagram	**L (H/m)**	**C (F/m)**
Single conductor per phase & symmetric alignment: 	$2 \times 10^{-7} \ln\left(\frac{D}{D_s}\right)$ D_s : conductor GMR. [Table A.3 or A.4]	$\frac{2\pi\varepsilon}{\ln\left(\frac{D}{r}\right)}$ r : conductor radius.
Single conductor per phase & asymmetric alignment, transposed:  Equivalent GMD: $D_{eq} = \sqrt[3]{D_{xy}.D_{yz}.D_{xz}}$	$2 \times 10^{-7} \ln\left(\frac{D_{eq}}{D_s}\right)$	$\frac{2\pi\varepsilon}{\ln\left(\frac{D_{eq}}{r}\right)}$
Bundled Conductors:  D_{eq} as defined before. D_{xy}, D_{yz}, D_{xz} defined as the distance between bundle centers.	$2 \times 10^{-7} \ln\left(\frac{D_{eq}}{D_{SL}}\right)$ D_{SL} defined below.	$\frac{2\pi\varepsilon}{\ln\left(\frac{D_{eq}}{D_{SC}}\right)}$ D_{SC} defined below.

2C bundle 	$D_{SL} = \sqrt{D_s.d}$	$D_{sc} = \sqrt{r.d}$
3C bundle 	$D_{SL} = \sqrt[3]{D_s.d^2}$	$D_{SC} = \sqrt[3]{r.d^2}$
4C bundle 	$D_{SL} = 1.091\sqrt[4]{D_s.d^3}$	$D_{SC} = 1.091\sqrt[4]{r.d^3}$

- $\varepsilon = 8.854 \times 10^{-12} \quad F/m$
- For bundled conductors (or single conductors for that matter), you can think of symmetric alignment as a special case of transposed asymmetric alignment in which: $D_{xy} = D_{yz} = D_{xz} = D \quad \rightarrow \quad D_{eq} = \sqrt[3]{D^3} = D$