Maple and Visio Index for Appendix P PhL 5.6.14

This is the appendix on eddy currents.

Fig P.1	eddy.vsd, page 5
Fig P.2	eddy.vsd, page 5
Fig P.3	hall effect2.vsd, page 3
Maple code below (P.2.10)	eddy2.mws, very start
Maple code below (P.3.25)	Section P3c.mws
Fig P.4	Section P3c.mws

"We have verified using Maple that the stream function $T_z(r,\theta)$ shown in (P.3.32) satisfies (P.3.19) and that the electric fields $E_r(r,\theta)$ and $E_\theta(r,\theta)$ satisfy (P.3.6). "

The above code is in:	problem2.mws
Maple code below (P.3.33)	problem2.mws, toward the end
Fig P.5	problem2.mws, toward the end
Fig P.6	eddy.vsd, page 2 (but has been added to)
Fig P.7(a)	arrows.mws
Fig P.7(b)	arrows.mws, post-process in eddy.vsd, page 3
Fig P.7(c)	arrows.mws
Fig P.8	eddy.vsd, page 2
Fig P.9	arrows.mws, post-process in eddy.vsd, page 2
Fig P.10	arrows.mws, post-process in eddy.vsd, page 2
Fig P.11	arrows.mws
Fig P.12	eddy.vsd, page 4
Fig P.13	eddy.vsd, page 4 (same picture edited)
Fig P.14	field lines 2.mws, post-process in eddy.vsd page 5
Fig P.15	field lines 2.mws, other polarity, pp in eddy.vsd page 5
Fig P.16	field lines 2.mws (without abs value)
Fig P.17	field lines 2.mws (without abs value)
Fig P.18	source lost, post-process in eddy.vsd, page 1
Fig P.19	taken from PDF of G. Smith

Other interesting Maple files:

field lines 2.mws

Shows a detailed plot of the magnetic field lines for two-cylinder transmission line at DC. This picture does not show B field strength, so not too useful for eddy current illustration. However, it also shows that the B field lines do not align with the cylinders, which is a point to be made in Chapter 4 so Chap 4 does not apply at low frequencies.

densityplot.mws

Experimenting with Maple's densityplot routine; also a possible plot of Jz in cylinder cross section for a the simple functional form of (P.5.6).