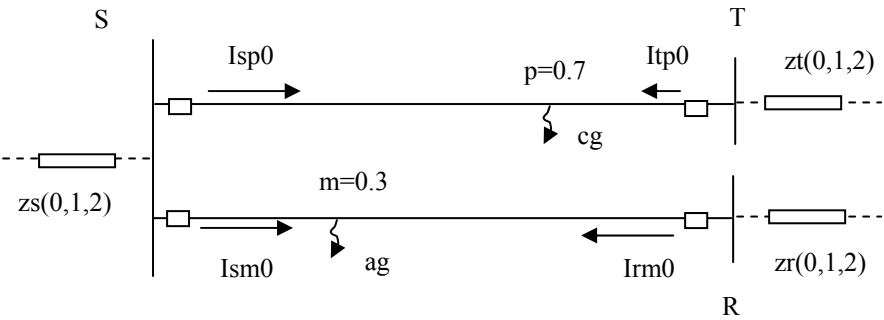


Programa PC34:

Esquema:



Programa	PC34		
Entrada por Input	Un=220 kV, kE=1, L=220 km, Sccs=1000 MVA, Sccr=1000 MVA Scct=5000 MVA , Ks0=1, Kr0=1		
	Compensación 21= Si		
Parámetro	k0 = zt0/zs0 = 0.1		
Falta Doble m, p	Falta m Línea SR	m	0.3
		Tipo	ag
		Elemento	AG
		Rfm	0
		Rgm	--
	Falta p Línea ST	p	0.7
		Tipo	cg
		Elemento	CG
		Rfp	0
		Rgp	--
Salida 4	Ohm-Volt-Amp (polar)		autoch01

Salida autoch01 del Programa PC34:

PC34

Esquema Linea Doble: SR,ST
 Barras separadas(R,T) en el Extremo Remoto
 Unominal kV: 400,220,132,66
 Ctes. de la Linea Doble, por Linea y por km, segun Unominal
 Compensacion 21: Si,No
 Eleccion: kE,L,Sccs,Sccr,Scct,Kr0,Ks0,k0=zt0/zs0
 Falta Simple m, o Doble m,p
 Falta Doble, m=0...1, p=fijo a elegir
 Barras Ficticias Iniciales m,p

Falta m en Linea SR1, entre S y R

m=0.30

Falta p en Linea SR2, entre S y R

p=0.70

Un=220 (kV)
 kE=E/En=1
 L=220.0(km)
 Ibase=262.43 (kA)
 Tipo de Falta, Simple(1), Doble(2) =2
 Compensacion 21, Si(1), No(2) =1
 Sccs =1000 (MVA)
 Sccr =1000 (MVA)
 Scct =5000 (MVA)
 Ks0 =1.0
 Kr0 =1.0
 k0=zt0/zs0=0.1

m =0.30 Falta:ag Rfm(Ohm):0.00
 p =0.70 Falta:cg Rfp(Ohm):0.00

Salida: pu(cart)=1, pu(polar)=2, Ohm-Volt-Amp(cart)=3,
 Ohm-Volt-Amp(polar)=4 : 4

SALIDA 21, Ohm , polar

Nota: Componentes de Z >=10000 Ohm se representan por Inf
 Nota: Componentes de Z <=-10000 Ohm se representan por -Inf

Sm= 27.83(78.7 °)(Ohm)
 Rm= 64.95(78.7 °)(Ohm)
 Sp= 64.95(78.7 °)(Ohm)
 Tp= 27.83(78.7 °)(Ohm)

Sm_ZAB= 107.51(128.9°)(Ohm)
 Sm_ZBC= 841.20(-145.1°)(Ohm)
 Sm_ZCA= 95.65(47.5 °)(Ohm)
 Sm_ZAG= 27.83(78.7 °)(Ohm)
 Sm_ZBG= 147.50(-62.4°)(Ohm)
 Sm_ZCG= 95.99(-169.0°)(Ohm)

Sp_ZAB= 333.54(-58.0°)(Ohm)
 Sp_ZBC= 215.81(40.4 °)(Ohm)
 Sp_ZCA= 191.17(136.5°)(Ohm)
 Sp_ZAG= 168.67(11.5 °)(Ohm)
 Sp_ZBG= 171.93(-68.7°)(Ohm)
 Sp_ZCG= 83.90(118.4°)(Ohm)

Rm_ZAB= 208.21(126.5°)(Ohm)
 Rm_ZBC= 910.44(38.9 °)(Ohm)
 Rm_ZCA= 161.50(61.8 °)(Ohm)
 Rm_ZAG= 68.96(20.4 °)(Ohm)
 Rm_ZBG= 99.86(-142.0°)(Ohm)
 Rm_ZCG= 79.91(91.3 °)(Ohm)

Tp_ZAB= 406.08(112.9°)(Ohm)
 Tp_ZBC= 82.93(41.7 °)(Ohm)
 Tp_ZCA= 69.01(98.6 °)(Ohm)
 Tp_ZAG= 89.73(-6.1 °)(Ohm)
 Tp_ZBG= 86.88(-150.2°)(Ohm)
 Tp_ZCG= 27.83(78.7 °)(Ohm)

SALIDA 67N, Volt, Amp, polar

Sm_67N:	Vspol=54954 (V)	Ismop=1880 (A)	AngDirSm=-124.4°
Sp_67N:	Vspol=54954 (V)	Ispop=1141 (A)	AngDirSp=21.4 °
Rm_67N:	Vrpol=31571 (V)	Irmop=652 (A)	AngDirRm=-90.0°
Tp_67N:	Vtpol=10906 (V)	Itpop=2253 (A)	AngDirTp=-90.0°

SALIDA V(0,1,2), I(0,1,2) Volt-Amp polar

Vm0 = 56735(-165.8°)(V)
 Vm1 = 85406(1.2 °)(V)
 Vm2 = 32682(158.3°)(V)
 Vp0 = 63764(-70.2°)(V)
 Vp1 = 90017(-1.7 °)(V)
 Vp2 = 28540(77.5 °)(V)
 Vs0 = 18318(-147.0°)(V)
 Vs1 = 98238(-0.8 °)(V)
 Vs2 = 18376(142.4°)(V)
 Vr0 = 10524(-174.3°)(V)
 Vr1 = 109188(-0.7 °)(V)
 Vr2 = 14023(164.8°)(V)
 Vt0 = 3635(-51.9°)(V)
 Vt1 = 117648(-1.0 °)(V)
 Vt2 = 7392(85.9 °)(V)

Im0 = 843(-89.6°)(A)
 Im1 = 843(-89.6°)(A)
 Im2 = 843(-89.6°)(A)
 Ip0 = 1121(43.6 °)(A)
 Ip1 = 1121(-76.4°)(A)
 Ip2 = 1121(163.6°)(A)
 Is0 = 378(-57.0°)(A)
 Is1 = 595(-87.4°)(A)
 Is2 = 380(-127.6°)(A)
 Ir0 = 217(-84.3°)(A)
 Ir1 = 369(-86.0°)(A)
 Ir2 = 290(-105.2°)(A)

```

It0  = 751(38.1 °)(A)
It1  = 994(-77.4°)(A)
It2  = 764(175.9°)(A)
Ism0 = 627(-91.4°)(A)
Ism1 = 475(-92.3°)(A)
Ism2 = 569(-81.7°)(A)
Isp0 = 380(54.4 °)(A)
Isp1 = 129(-69.0°)(A)
Isp2 = 409(140.1°)(A)
Irm0 = 217(-84.3°)(A)
Irm1 = 369(-86.0°)(A)
Irm2 = 290(-105.2°)(A)
Itp0 = 751(38.1 °)(A)
Itp1 = 994(-77.4°)(A)
Itp2 = 764(175.9°)(A)

```

SALIDA V(a,b,c), I(a,b,c) Volt,Amp Polar

```

Vma  = 0(0.0 °)(V)
Vmb  = 151690(-127.0°)(V)
Vmc  = 108322(132.8°)(V)
Vpa  = 122802(-16.5°)(V)
Vpb  = 154498(-110.0°)(V)
Vpc  = 0(90.0 °)(V)
Vsa  = 68320(-0.1 °)(V)
Vsb  = 131575(-121.1°)(V)
Vsc  = 94827(119.3°)(V)
Vra  = 85186(0.9 °)(V)
Vrb  = 125268(-120.0°)(V)
Vrc  = 117216(117.5°)(V)
Vta  = 120425(1.1 °)(V)
Vtb  = 125139(-121.3°)(V)
Vtc  = 107541(116.9°)(V)

```

```

Ima  = 2529(-89.6°)(A)
Imb  = 0(19.0 °)(A)
Imc  = 0(19.0 °)(A)
Ipa  = 0(-90.0°)(A)
Ipb  = 0(26.6 °)(A)
Ipc  = 3364(43.6 °)(A)
Isa  = 1213(-89.9°)(A)
Isb  = 108(-60.0°)(A)
Isc  = 666(32.2 °)(A)
Ira  = 865(-91.9°)(A)
Irb  = 36(146.8°)(A)
Irc  = 231(57.7 °)(A)
Ita  = 454(-84.2°)(A)
Itb  = 78(107.8°)(A)
Itc  = 2488(45.3 °)(A)

```

```

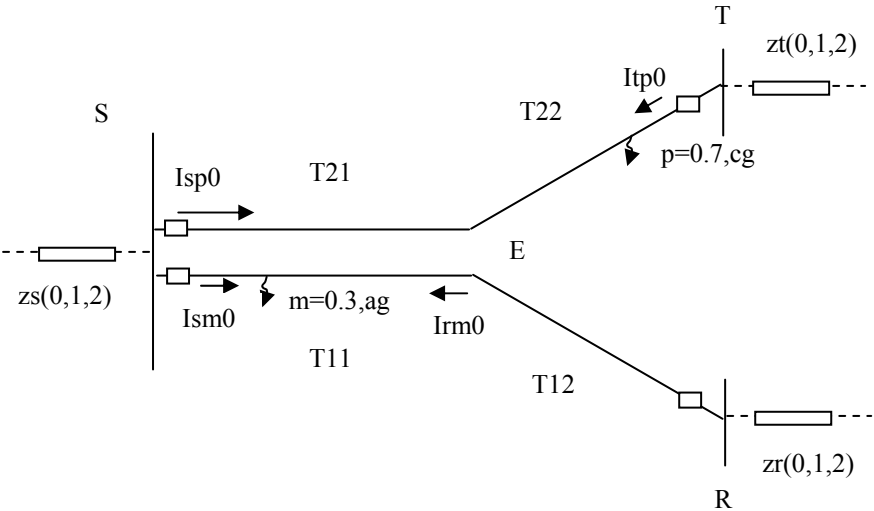
Isma = 1665(-88.4°)(A)
Ismb = 36(-33.2°)(A)
Ismc = 231(-122.3°)(A)
Ispa = 454(95.8 °)(A)
Ispb = 78(-72.2°)(A)
Ispc = 880(38.7 °)(A)
Irma = 865(-91.9°)(A)
Irmb = 36(146.8°)(A)
Irmc = 231(57.7 °)(A)

```

Itpa = 454(-84.2°)(A)
 Itpb = 78(107.8°)(A)
 Itpc = 2488(45.3 °)(A)

Programa PC44:

Esquema:



Programa	PC44		
Entrada por Input	Un=220 kV, kE=1, L1=200 km, L2=100 km, L3=10 km, Scs=1000 MVA, Sccr=1000 MVA, Scct=5000 MVA, Ks0=1, Kr0=1		
	Compensación 21= Si		
Parámetro	$k0 = zt0/zs0 = 0.1$		
Falta Doble m, p	Falta m Línea SE(SR)	m	0.3
		Tipo	ag
		Elemento	AG
		Rfm	0
		Rgm	--
	Falta p Línea ET(ST)	p	0.7
		Tipo	cg
		Elemento	CG
		Rfp	0
		Rgp	--
Salida 4	Ohm-Volt-Amp (polar)		autoch01

Salida autoch01 del Programa PC44:

PC44

Esquema Linea Doble SE
 Lineas Separadas ER y ET
 Unominal kV: 400,220,132,66
 Ctes. de la Linea Doble, por Linea y por km, segun Unominal
 Compensacion 21: Si,No
 Eleccion: kE,L1,L2,L3,Sccs,Sccr,Scct,Kr0,Ks0,k0=zt0/zs0
 Falta Simple m, o Doble m,p
 No situar m y p en el mismo Tramo
 Barras Ficticias Iniciales m,p

Tramo con Falta m: T11=6,T12=7,T21=8,T22=9
 Falta m en Linea SR, entre S y E
 m=0.30
 $S_m = 4.97 + i(24.81)\text{Ohm}$
 $R_m = 19.90 + i(99.24)\text{Ohm}$

Tramo con Falta p: T11=6,T12=7,T21=8,T22=9
 Falta p en Linea ST, entre E y T
 p=0.30 (***)
 $S_p = 17.16 + i(85.59)\text{Ohm}$
 $T_p = 0.25 + i(1.24)\text{Ohm}$

Un=220 (kV)
 kE=E/En=1
 L1=200.0(km)
 L2=100.0(km)
 L3=10.0 (km)
 Ibase=262.43 (kA)
 Tipo de Falta, Simple(1), Doble(2) =2
 Compensacion 21, Si(1), No(2) =1
 Sccs =1000 (MVA)
 Sccr =1000 (MVA)
 Scct =5000 (MVA)
 Ks0 =1.0
 Kr0 =1.0
 k0=zt0/zs0=0.1

m =0.30 Falta:ag Rfm(Ohm):0.00
 p =0.70 Falta:cg Rfp(Ohm):0.00

Salida: pu(cart)=1, pu(polar)=2, Ohm-Volt-Amp(cart)=3,
 Ohm-Volt-Amp(polar)=4 : 4

SALIDA 21, Ohm , polar

Nota: Componentes de Z >=10000 Ohm se representan por Inf
 Nota: Componentes de Z <=-10000 Ohm se representan por -Inf

Sm= 25.30(78.7 °)(Ohm)
 Rm= 101.21(78.7 °)(Ohm)
 Sp= 87.30(78.7 °)(Ohm)
 Tp= 1.27(78.7 °)(Ohm)

Sr_ZAB= 111.54(118.4°)(Ohm)
 Sr_ZBC= 809.78(-142.8°)(Ohm)
 Sr_ZCA= 98.18(38.4 °)(Ohm)
 Sr_ZAG= 25.30(78.7 °)(Ohm)
 Sr_ZBG= 125.47(-53.7°)(Ohm)
 Sr_ZCG= 84.79(-156.8°)(Ohm)

St_ZAB= 336.37(-68.5°)(Ohm)
 St_ZBC= 176.35(43.6 °)(Ohm)
 St_ZCA= 143.14(134.4°)(Ohm)
 St_ZAG= 162.31(88.9 °)(Ohm)
 St_ZBG= 139.71(-45.2°)(Ohm)
 St_ZCG= 95.79(133.9°)(Ohm)

Rs_ZAB= 317.31(113.6°)(Ohm)
 Rs_ZBC= 908.44(42.5 °)(Ohm)
 Rs_ZCA= 243.51(60.0 °)(Ohm)
 Rs_ZAG= 129.34(67.8 °)(Ohm)
 Rs_ZBG= 592.91(-79.8°)(Ohm)
 Rs_ZCG= 350.30(111.6°)(Ohm)

Ts_ZAB= 413.57(104.8°)(Ohm)
 Ts_ZBC= 10.97(30.5 °)(Ohm)
 Ts_ZCA= 9.95(141.1°)(Ohm)
 Ts_ZAG= 12.45(-22.3°)(Ohm)
 Ts_ZBG= 12.68(-160.6°)(Ohm)
 Ts_ZCG= 1.27(78.7 °)(Ohm)

SALIDA 67N, Volt, Amp, polar

Sr_67N:	Vspol=62176 (V)	Isrop=1883 (A)	AngDirSr=-105.2°
St_67N:	Vspol=62176 (V)	Istop=726 (A)	AngDirSt=47.1 °
Rs_67N:	Vrpol=17282 (V)	Irsop=357 (A)	AngDirRs=-90.0°
Ts_67N:	Vtpol=61588 (V)	Itsop=12725 (A)	AngDirTs=-90.0°

SALIDA V(0,1,2), I(0,1,2) Volt-Amp polar

Vm0 = 60074(-173.0°)(V)
 Vm1 = 85407(-1.7 °)(V)
 Vm2 = 27543(159.2°)(V)
 Vp0 = 37296(-63.9°)(V)
 Vp1 = 80538(-0.6 °)(V)
 Vp2 = 43361(62.3 °)(V)
 Vs0 = 20725(-161.7°)(V)
 Vs1 = 96677(-1.9 °)(V)
 Vs2 = 15993(136.8°)(V)
 Vr0 = 5761(-139.2°)(V)
 Vr1 = 113746(-1.3 °)(V)
 Vr2 = 8949(166.8°)(V)
 Vt0 = 20529(-59.4°)(V)
 Vt1 = 85869(-1.1 °)(V)
 Vt2 = 38426(63.6 °)(V)

Im0 = 725(-81.1°)(A)
 Im1 = 725(-81.1°)(A)
 Im2 = 725(-81.1°)(A)
 Ip0 = 4442(32.4 °)(A)
 Ip1 = 4442(-87.6°)(A)
 Ip2 = 4442(152.4°)(A)


```

Is0  = 428(-71.7°)(A)
Is1  = 632(-83.9°)(A)
Is2  = 330(-133.2°)(A)
Ir0  = 119(-49.2°)(A)
Ir1  = 280(-78.9°)(A)
Ir2  = 185(-103.2°)(A)
It0  = 4242(30.6 °)(A)
It1  = 4256(-87.7°)(A)
It2  = 3970(153.6°)(A)
Isr0 = 628(-86.9°)(A)
Isr1 = 446(-82.5°)(A)
Isr2 = 558(-74.0°)(A)
Ist0 = 242(65.4 °)(A)
Ist1 = 186(-87.2°)(A)
Ist2 = 481(142.1°)(A)
Irs0 = 119(-49.2°)(A)
Irs1 = 280(-78.9°)(A)
Irs2 = 185(-103.2°)(A)
Its0 = 4242(30.6 °)(A)
Its1 = 4256(-87.7°)(A)
Its2 = 3970(153.6°)(A)

```

SALIDA V(a,b,c), I(a,b,c) Volt,Amp Polar

```

Vma  = 0(0.0 °)(V)
Vmb  = 146646(-133.0°)(V)
Vmc  = 116107(132.7°)(V)
Vpa  = 117147(2.0 °)(V)
Vpb  = 124698(-123.0°)(V)
Vpc  = 0(0.0 °)(V)
Vsa  = 65295(1.0 °)(V)
Vsb  = 128013(-125.6°)(V)
Vsc  = 97181(120.9°)(V)
Vra  = 100735(-2.5 °)(V)
Vrb  = 125293(-119.1°)(V)
Vrc  = 115361(117.3°)(V)
Vta  = 114380(7.6 °)(V)
Vtb  = 118261(-127.7°)(V)
Vtc  = 27313(111.0°)(V)

Ima  = 2176(-81.1°)(A)
Imb  = 0(16.9 °)(A)
Imc  = 0(16.9 °)(A)
Ipa  = 0(-90.0°)(A)
Ipb  = 0(14.0 °)(A)
Ipc  = 13327(32.4 °)(A)
Isa  = 1276(-91.1°)(A)
Isb  = 256(-118.2°)(A)
Isc  = 617(27.2 °)(A)
Ira  = 552(-80.7°)(A)
Irb  = 55(100.7°)(A)
Irc  = 269(55.1 °)(A)
Ita  = 426(-50.7°)(A)
Itb  = 216(52.6 °)(A)
Itc  = 12464(32.1 °)(A)

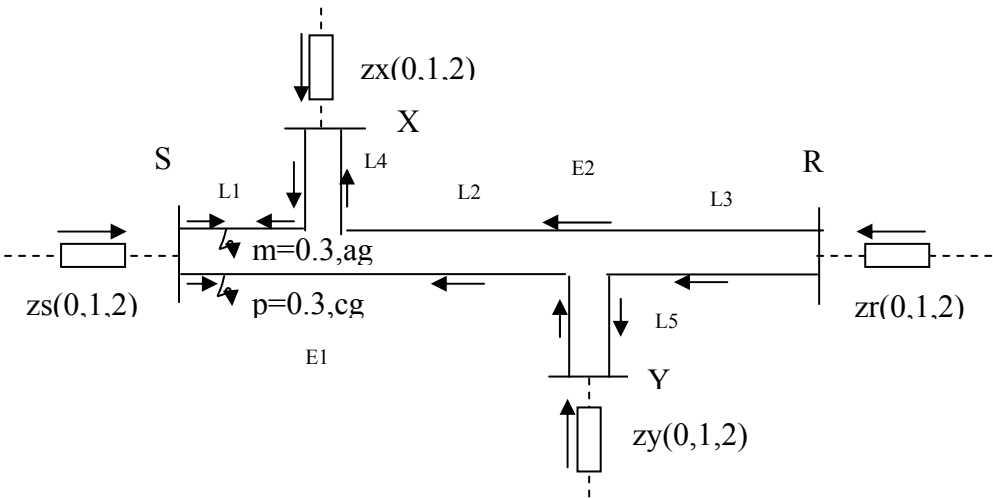
Isra = 1624(-81.3°)(A)
Isrb = 55(-79.3°)(A)
Isrc = 269(-124.9°)(A)

```

Ista = 426(129.3°)(A)
 Istb = 216(-127.4°)(A)
 Istc = 864(35.5 °)(A)
 Irsa = 552(-80.7°)(A)
 Irsb = 55(100.7°)(A)
 Irsc = 269(55.1 °)(A)
 Itsa = 426(-50.7°)(A)
 Itsb = 216(52.6 °)(A)
 Itsc = 12464(32.1 °)(A)

Programa PC54:

Esquema:



Programa	PC54		
Entrada por Input	Un=220 kV, kE=1, L1=100 km, L2=100 km, L3=100 km, L4=100 km, L5=100 km, Sccs=5000 MVA, Sccx=5000 MVA, Sccr=5000 MVA, Sccy=5000 MVA, Kx0=1, Kr0=1, Ky0=1		
	Compensación 21= Si		
Parámetro	$k0 = z_{s0}/z_{r0} = 10$		
Falta Doble m,p	Falta m Tramo T1 Línea Sup	m	0.3 (Tramo)
		Tipo	ag
		Elemento	AG
		Rfm	0
		Rgm	--
	Falta p Tramo T1 Línea Inf.	p	0.3 (Tramo)
		Tipo	cg
		Elemento	CG
		Rfp	0
		Rgp	--
Salida 3	Ohm-Volt-Amp (cart)		autoch01

Salida autoch01 del Programa PC54:

PC54

Salida\autoch01.txt

Esquema Linea Doble SR, Bifurcando a X,Y

5 Tramos

Unominal kV: 400,220,132,66

Ctes. de la Linea Doble, por Linea y por km, segun Unominal

Eleccion: kE,L1,L2,L3,L4,L5,ScCs,ScCx,ScCr,ScCy

Kx0,Kr0,Ky0,k0=zs0/zr0

Compensacion 21: Si,No

Falta Simple m, o Doble m,p

Barra m,p a elegir entre a,b,c,d,e,f,g,h,q,r

Para cada Tramo: Barra m=1, Barra p=2

Un =220 (kV)

kE=E/Enominal =1

Tipo de Falta, Simple(1), Doble(2) =2

Compensacion 21, Si(1), No(2) =1

L1=100.0(km) L2=100.0(km) L3=100.0(km) L4=100.0(km)

L5=100.0(km)

ScCs=5000 (MVA) ScCx=5000 (MVA) ScCr=5000 (MVA) ScCy=5000 (MVA)

Kx0=1.00 Kr0=1.00 Ky0=1.00 k0=10.00

Tramo con Falta m:

T1sup=11,T4izq=12,T4der=13,T2sup=14,T3sup=15,T3inf=16

T5der=17,T5izq=18,T2inf=19,T1inf=20: 11

Falta m en Linea SX, entre S y E1

m=0.30

Sm =2.49 +i(12.40)Ohm

Xm =14.09+i(70.29)Ohm

Tramo con Falta p:

T1sup=11,T4izq=12,T4der=13,T2sup=14,T3sup=15,T3inf=16

T5der=17,T5izq=18,T2inf=19,T1inf=20: 20

Falta p en Linea SY, entre S y E1

p=0.30

Sp = 2.49+i(12.40)Ohm

Yp = 22.38+i(111.64)Ohm

m =0.30

Falta:ag

Rfm:0.00 Ohm

p =0.30

Falta:cg

Rfp:0.00 Ohm

Salida: pu(cart)=1, pu(polar)=2, Ohm-Volt-Amp(cart)=3,
Ohm-Volt-Amp(polar)=4 : 3

Nota: Componentes de Z >=10000 Ohm se representan por Inf

Nota: Componentes de Z <=-10000 Ohm se representan por -Inf

Sx AB: -30.83+i(24.37)Ohm
 BC: -408.22+i(-97.72)Ohm
 CA: 11.76+i(28.28)Ohm
 AG: 2.49+i(12.40)Ohm
 BG: 72.71+i(-148.63)Ohm
 CG: -50.28+i(-21.05)Ohm

Sy AB: 391.84+i(-438.83)Ohm
 BC: 36.41+i(15.29)Ohm
 CA: -0.69+i(28.27)Ohm
 AG: 57.75+i(-51.49)Ohm
 BG: -112.25+i(-164.70)Ohm
 CG: 2.49+i(12.41)Ohm

Xs AB: -107.51+i(121.87)Ohm
 BC: 424.80+i(180.42)Ohm
 CA: 35.87+i(110.58)Ohm
 AG: 9.12+i(71.70)Ohm
 BG: 30.83+i(-240.05)Ohm
 CG: -60.01+i(184.70)Ohm

Xr AB: 1310.79+i(-2111.06)Ohm
 BC: -8102.22+i(-1985.50)Ohm
 CA: -868.29+i(-1637.36)Ohm
 AG: 320.72+i(161.56)Ohm
 BG: 53.69+i(-340.91)Ohm
 CG: -301.35+i(106.07)Ohm

Rx AB: -1285.92+i(2235.11)Ohm
 BC: 8127.09+i(2109.55)Ohm
 CA: 893.16+i(1761.41)Ohm
 AG: 137.26+i(547.36)Ohm
 BG: 551.20+i(-709.73)Ohm
 CG: -1035.29+i(-5.57)Ohm

Ry AB: -4078.62+i(8903.11)Ohm
 BC: 2578.45+i(981.82)Ohm
 CA: 557.91+i(2105.84)Ohm
 AG: 880.94+i(147.72)Ohm
 BG: -458.74+i(-811.45)Ohm
 CG: -73.40+i(694.29)Ohm

Yr AB: 4095.20+i(-8820.41)Ohm
 BC: -2561.87+i(-899.12)Ohm
 CA: -541.33+i(-2023.14)Ohm
 AG: 804.01+i(-216.95)Ohm
 BG: -525.34+i(-697.19)Ohm
 CG: -763.32+i(536.73)Ohm

Ys AB: -366.97+i(562.88)Ohm
 BC: 217.74+i(116.30)Ohm
 CA: 23.98+i(177.14)Ohm
 AG: 209.68+i(247.35)Ohm
 BG: -296.24+i(-380.41)Ohm
 CG: 39.43+i(107.47)Ohm

Vm0 : -50683.13+i(-30457.65)(V)

Vm1 : 82664.03+i(6113.91)(V)

Vm2 : -31980.91+i(24343.73)(V)

Vp0 : -3819.50+i(-60552.20)(V)
 Vp1 : 80415.03+i(-8933.74)(V)
 Vp2 : -6405.13+i(38206.27)(V)
 Vs0 : -18977.18+i(-35126.54)(V)
 Vs1 : 99535.34+i(-3010.95)(V)
 Vs2 : -13109.70+i(18034.95)(V)
 Vx0 : -1563.23+i(-1311.65)(V)
 Vx1 : 121979.60+i(-152.91)(V)
 Vx2 : -3998.08+i(2119.08)(V)
 Vr0 : -264.90+i(-380.30)(V)
 Vr1 : 126411.66+i(-229.20)(V)
 Vr2 : -407.89+i(327.28)(V)
 Vy0 : 320.27+i(-1027.71)(V)
 Vy1 : 123801.63+i(-1201.29)(V)
 Vy2 : -938.60+i(2627.41)(V)

Im0 : -422.94+i(-2004.13)(A)
 Im1 : -422.94+i(-2004.13)(A)
 Im2 : -422.94+i(-2004.13)(A)
 Ip0 : 1066.77+i(1652.31)(A)
 Ip1 : 897.56+i(-1750.01)(A)
 Ip2 : -1964.33+i(97.69)(A)
 Is0 : 362.88+i(-196.05)(A)
 Is1 : 311.05+i(-2839.02)(A)
 Is2 : -1863.11+i(-1354.31)(A)
 Ix0 : 135.50+i(-161.49)(A)
 Ix1 : 15.80+i(-520.40)(A)
 Ix2 : -218.91+i(-413.02)(A)
 Ir0 : 39.29+i(-27.37)(A)
 Ir1 : 23.68+i(-62.54)(A)
 Ir2 : -33.81+i(-42.14)(A)
 Iy0 : 106.17+i(33.09)(A)
 Iy1 : 124.10+i(-332.17)(A)
 Iy2 : -271.43+i(-96.96)(A)
 Isx0: -538.14+i(-1761.48)(A)
 Isx1: -445.03+i(-1449.26)(A)
 Isx2: -195.71+i(-1560.50)(A)
 Isy0: 901.02+i(1565.44)(A)
 Isy1: 756.08+i(-1389.76)(A)
 Isy2: -1667.40+i(206.19)(A)
 Ixs0: 115.20+i(-242.64)(A)
 Ixs1: 22.09+i(-554.86)(A)
 Ixs2: -227.22+i(-443.63)(A)
 Ixr0: 20.30+i(81.15)(A)
 Ixr1: -6.29+i(34.47)(A)
 Ixr2: 8.31+i(30.61)(A)
 Irx0: -20.30+i(-81.15)(A)
 Irx1: 6.29+i(-34.47)(A)
 Irx2: -8.31+i(-30.61)(A)
 Iry0: 59.58+i(53.79)(A)
 Iry1: 17.38+i(-28.08)(A)
 Iry2: -25.50+i(-11.53)(A)
 Iyr0: -59.58+i(-53.79)(A)
 Iyr1: -17.38+i(28.08)(A)
 Iyr2: 25.50+i(11.53)(A)
 Iys0: 165.75+i(86.87)(A)
 Iys1: 141.48+i(-360.25)(A)
 Iys2: -296.93+i(-108.49)(A)

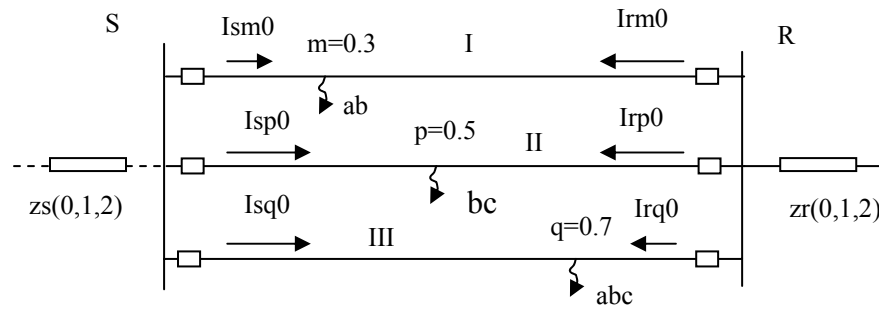
AUTOCHEQUEO DEL PROGRAMA PC54:

Extremo Sm(AG) :	Valor exacto:	$S_m = 2.49 + i(12.40) \text{ (Ohm)}$
	Valor medido:	$S_x(AG) = 2.49 + i(12.40) \text{ (Ohm)}$
Extremo Sp(CG) :	Valor exacto:	$S_p = 2.49 + i(12.40) \text{ (Ohm)}$
	Valor exacto:	$S_y(CG) = 2.49 + i(12.41) \text{ (Ohm)}$

Las Variables de Salida de los Programas con Salida Numérica están definidas en el apartado "Nomenclatura: Variables de Salida de los Programas con Salida Numérica" del Manual de Usuario.

Programa PC173:

Esquema:



Programa	PC173		
Entrada Standard	Un=220 kV, kE=1, L=220 km, Sccs=5000 MVA, Sccr=5000 MVA Kr0=1		
	zsr= ∞		
	Compensación 21= No		
Parámetro	$k0 = z_{s0}/z_{r0} = 10$		
Falta Triple m, p, q	Falta m Línea SR I	m	0.3
		Tipo	ab
		Elemento	AB
		Rfm	0
		Rgm	--
	Falta p Línea SR II	p	0.5
		Tipo	bc
		Elemento	BC
		Rfp	0
		Rgp	--
	Falta q Línea SR III	q	0.7
		Tipo	abc
		Elemento	BC
		Rfq	0
		Rgq	--
Salida	Ohm-Volt-Amp (cart)		autoch01
	Ohm-Volt-Amp (pol)		

Salida autoch01 del Programa PC173:

PC173

Esquema 3 Lineas entre S y R
Falta Triple m,p,q
zsr si, no

Un =220 (kV) L=220 (km)
Sccs=5000 (MVA)
Sccr=5000 (MVA)
Kr0=1.00
k0=10.00

m =0.30 Falta:ab Rfm:0.00 (Ohm)
Sm =5.47 +i(27.29)(Ohm) Rm =12.77+i(63.68)(Ohm)

p =0.50 Falta:bc Rfp:0.00 (Ohm)
Sp =9.12 +i(45.48)(Ohm) Rp =9.12 +i(45.48)(Ohm)

q =0.70 Falta:abc Rfp:0.00 (Ohm)
Sq =12.77+i(63.68)(Ohm) Rq =5.47 +i(27.29)(Ohm)

Sm_ZAB: 5.47+i(27.29)Ohm
Sm_ZBC: -48.61+i(34.11)Ohm
Sm_ZCA: 58.16+i(27.58)Ohm
Sm_ZAG: 23.25+i(26.63)Ohm
Sm_ZBG: -12.47+i(28.74)Ohm
Sm_ZCG: 250.18+i(781.02)Ohm

Rm_ZAB: 12.77+i(63.68)Ohm
Rm_ZBC: -105.99+i(53.29)Ohm
Rm_ZCA: 138.63+i(35.94)Ohm
Rm_ZAG: 54.78+i(59.02)Ohm
Rm_ZBG: -28.40+i(64.03)Ohm
Rm_ZCG: -231.94+i(-690.05)Ohm

Sp_ZAB: 90.81+i(16.66)Ohm
Sp_ZBC: 9.12+i(45.48)Ohm
Sp_ZCA: -63.91+i(76.38)Ohm
Sp_ZAG: -857.80+i(1320.25)Ohm
Sp_ZBG: 35.34+i(35.59)Ohm
Sp_ZCG: -16.14+i(55.61)Ohm

Rp_ZAB: 90.81+i(16.66)Ohm
Rp_ZBC: 9.12+i(45.48)Ohm
Rp_ZCA: -82.54+i(70.47)Ohm
Rp_ZAG: 876.04+i(-1229.28)Ohm
Rp_ZBG: 37.41+i(36.22)Ohm
Rp_ZCG: -20.28+i(54.32)Ohm

Sq_ZAB: 12.77+i(63.68)Ohm
Sq_ZBC: 12.77+i(63.68)Ohm
Sq_ZCA: 12.77+i(63.68)Ohm
Sq_ZAG: 12.77+i(63.68)Ohm
Sq_ZBG: 12.77+i(63.68)Ohm
Sq_ZCG: 12.77+i(63.68)Ohm

Rq_ZAB: 5.47+i(27.29)Ohm
 Rq_ZBC: 5.47+i(27.29)Ohm
 Rq_ZCA: 5.47+i(27.29)Ohm
 Rq_ZAG: 5.47+i(27.29)Ohm
 Rq_ZBG: 5.47+i(27.29)Ohm
 Rq_ZCG: 5.47+i(27.29)Ohm

Sm_ZAB= 27.83(78.7 °)(Ohm)
 Sm_ZBC= 59.39(144.9°)(Ohm)
 Sm_ZCA= 64.37(25.4 °)(Ohm)
 Sm_ZAG= 35.35(48.9 °)(Ohm)
 Sm_ZBG= 31.33(113.4°)(Ohm)
 Sm_ZCG= 820.11(72.2 °)(Ohm)

Sp_ZAB= 92.33(10.4 °)(Ohm)
 Sp_ZBC= 46.39(78.7 °)(Ohm)
 Sp_ZCA= 99.59(129.9°)(Ohm)
 Sp_ZAG=1574.44(123.0°)(Ohm)
 Sp_ZBG= 50.16(45.2 °)(Ohm)
 Sp_ZCG= 57.90(106.2°)(Ohm)

Sq_ZAB= 64.95(78.7 °)(Ohm)
 Sq_ZBC= 64.95(78.7 °)(Ohm)
 Sq_ZCA= 64.95(78.7 °)(Ohm)
 Sq_ZAG= 64.95(78.7 °)(Ohm)
 Sq_ZBG= 64.95(78.7 °)(Ohm)
 Sq_ZCG= 64.95(78.7 °)(Ohm)

Rm_ZAB= 64.95(78.7 °)(Ohm)
 Rm_ZBC= 118.64(153.3°)(Ohm)
 Rm_ZCA= 143.21(14.5 °)(Ohm)
 Rm_ZAG= 80.52(47.1 °)(Ohm)
 Rm_ZBG= 70.05(113.9°)(Ohm)
 Rm_ZCG= 727.99(-108.6°)(Ohm)

Rp_ZAB= 92.33(10.4 °)(Ohm)
 Rp_ZBC= 46.39(78.7 °)(Ohm)
 Rp_ZCA= 108.53(139.5°)(Ohm)
 Rp_ZAG=1509.49(-54.5°)(Ohm)
 Rp_ZBG= 52.07(44.1 °)(Ohm)
 Rp_ZCG= 57.98(110.5°)(Ohm)

Rq_ZAB= 27.83(78.7 °)(Ohm)
 Rq_ZBC= 27.83(78.7 °)(Ohm)
 Rq_ZCA= 27.83(78.7 °)(Ohm)
 Rq_ZAG= 27.83(78.7 °)(Ohm)
 Rq_ZBG= 27.83(78.7 °)(Ohm)
 Rq_ZCG= 27.83(78.7 °)(Ohm)

Sm_67N:	Vspol=0 (V)	Ismop=0 (A)	AngDirSm=NaN °
Sp_67N:	Vspol=0 (V)	Ispop=0 (A)	AngDirSp=NaN °
Sq_67N:	Vspol=0 (V)	Isqop=0 (A)	AngDirSq=NaN °
Rm_67N:	Vrpol=0 (V)	Irmop=0 (A)	AngDirRm=NaN °
Rp_67N:	Vrpol=0 (V)	Irpop=0 (A)	AngDirRp=NaN °
Rq_67N:	Vrpol=0 (V)	Irqop=0 (A)	AngDirRq=NaN °

Vm0 = 0+i(0)(V)
 Vm1 = 46559+i(301)(V)
 Vm2 = -23019+i(-40472)(V)

```

Vp0 = 0+i(0 )(V)
Vp1 = 44908+i(-5852 )(V)
Vp2 = 44908+i(-5852 )(V)
Vq0 = 0+i(0 )(V)
Vq1 = 0+i(0 )(V)
Vq2 = 0+i(0 )(V)
Vs0 = 0+i(0 )(V)
Vs1 = 89615+i(-5023 )(V)
Vs2 = 1843+i(-8858 )(V)
Vr0 = 0+i(0 )(V)
Vr1 = 84205+i(-5689 )(V)
Vr2 = 3971+i(-3839 )(V)

```

```

Im0 = 0+i(0 )(A)
Im1 = 140+i(-2141 )(A)
Im2 = 1924+i(-949 )(A)
Ip0 = 0+i(0 )(A)
Ip1 = 377+i(-1771 )(A)
Ip2 = -377+i(1771 )(A)
Iq0 = 0+i(0 )(A)
Iq1 = 590+i(-4375 )(A)
Iq2 = -235+i(-222 )(A)
Ism0= 0+i(0 )(A)
Ism1= 117+i(-1554 )(A)
Ism2= 1289+i(-653 )(A)
Irm0= 0+i(0 )(A)
Irm1= 24+i(-586 )(A)
Irm2= 635+i(-297 )(A)
Isp0= 0+i(0 )(A)
Isp1= 207+i(-941 )(A)
Isp2= -246+i(897 )(A)
Irp0= 0+i(0 )(A)
Irp1= 170+i(-830 )(A)
Irp2= -131+i(874 )(A)
Isq0= 0+i(0 )(A)
Isq1= 195+i(-1368 )(A)
Isq2= -128+i(-55 )(A)
Irq0= 0+i(0 )(A)
Irq1= 394+i(-3006 )(A)
Irq2= -107+i(-167 )(A)

```

```

Vm0 = 0(0.0 °)(V)
Vm1 = 46560(0.4 °)(V)
Vm2 = 46560(-119.6°)(V)
Vp0 = 0(0.0 °)(V)
Vp1 = 45288(-7.4 °)(V)
Vp2 = 45288(-7.4 °)(V)
Vq0 = 0(0.0 °)(V)
Vq1 = 0(0.0 °)(V)
Vq2 = 0(0.0 °)(V)
Vs0 = 0(0.0 °)(V)
Vs1 = 89756(-3.2 °)(V)
Vs2 = 9048(-78.2°)(V)
Vr0 = 0(0.0 °)(V)
Vr1 = 84397(-3.9 °)(V)
Vr2 = 5523(-44.0°)(V)

```

```

Im0 = 0(0.0 °)(A)
Im1 = 2145(-86.3°)(A)
Im2 = 2145(-26.3°)(A)

```

```

Ip0 = 0(0.0 °)(A)
Ip1 = 1811(-78.0°)(A)
Ip2 = 1811(102.0°)(A)
Iq0 = 0(0.0 °)(A)
Iq1 = 4414(-82.3°)(A)
Iq2 = 323(-136.7°)(A)
Ism0= 0(0.0 °)(A)
Ism1= 1559(-85.7°)(A)
Ism2= 1445(-26.8°)(A)
Irm0= 0(0.0 °)(A)
Irm1= 587(-87.7°)(A)
Irm2= 701(-25.0°)(A)
Isp0= 0(0.0 °)(A)
Isp1= 964(-77.6°)(A)
Isp2= 931(105.3°)(A)
Irp0= 0(0.0 °)(A)
Irp1= 847(-78.4°)(A)
Irp2= 884(98.5 °)(A)
Isq0= 0(0.0 °)(A)
Isq1= 1382(-81.9°)(A)
Isq2= 139(-156.9°)(A)
Irq0= 0(0.0 °)(A)
Irq1= 3032(-82.5°)(A)
Irq2= 198(-122.7°)(A)

Vma = 23540+i(-40171 )(V)
Vmb = 23540+i(-40171 )(V)
Vmc = -47081+i(80342 )(V)
Vpa = 89817+i(-11705 )(V)
Vpb = -44908+i(5852 )(V)
Vpc = -44908+i(5852 )(V)
Vqa = 0+i(0 )(V)
Vqb = 0+i(0 )(V)
Vqc = 0+i(0 )(V)
Vsa = 91458+i(-13881 )(V)
Vsb = -42408+i(-69073 )(V)
Vsc = -49050+i(82954 )(V)
Vra = 88176+i(-9529 )(V)
Vrb = -45690+i(-64721 )(V)
Vrc = -42486+i(74249 )(V)

Ima = 2064+i(-3090 )(A)
Imb = -2064+i(3090 )(A)
Imc = 0+i(0 )(A)
Ipa = 0+i(0 )(A)
Ipb = -3068+i(-653 )(A)
Ipc = 3068+i(653 )(A)
Iqa = 354+i(-4596 )(A)
Iqb = -3774+i(1584 )(A)
Iqc = 3419+i(3013 )(A)
Isma= 1406+i(-2207 )(A)
Ismb= -1484+i(2119 )(A)
Ismc= 78+i(88 )(A)
Irma= 658+i(-883 )(A)
Irmb= -580+i(971 )(A)
Irmc= -78+i(-88 )(A)
Ispa= -39+i(-44 )(A)
Ispb= -1573+i(-370 )(A)
Ispc= 1612+i(414 )(A)

```

$I_{rpa} = 39 + i(44) \text{ (A)}$
 $I_{rpb} = -1495 + i(-283) \text{ (A)}$
 $I_{rpc} = 1456 + i(239) \text{ (A)}$
 $I_{sqa} = 67 + i(-1423) \text{ (A)}$
 $I_{sqb} = -1171 + i(431) \text{ (A)}$
 $I_{sqc} = 1104 + i(992) \text{ (A)}$
 $I_{rqa} = 287 + i(-3173) \text{ (A)}$
 $I_{rqb} = -2603 + i(1152) \text{ (A)}$
 $I_{rqc} = 2315 + i(2021) \text{ (A)}$

$V_{ma} = 46560(-59.6^\circ) \text{ (V)}$
 $V_{mb} = 46560(-59.6^\circ) \text{ (V)}$
 $V_{mc} = 93121(120.4^\circ) \text{ (V)}$
 $V_{pa} = 90576(-7.4^\circ) \text{ (V)}$
 $V_{pb} = 45288(172.6^\circ) \text{ (V)}$
 $V_{pc} = 45288(172.6^\circ) \text{ (V)}$
 $V_{qa} = 0(0.0^\circ) \text{ (V)}$
 $V_{qb} = 0(0.0^\circ) \text{ (V)}$
 $V_{qc} = 0(0.0^\circ) \text{ (V)}$
 $V_{sa} = 92505(-8.6^\circ) \text{ (V)}$
 $V_{sb} = 81052(-121.5^\circ) \text{ (V)}$
 $V_{sc} = 96370(120.6^\circ) \text{ (V)}$
 $V_{ra} = 88689(-6.2^\circ) \text{ (V)}$
 $V_{rb} = 79223(-125.2^\circ) \text{ (V)}$
 $V_{rc} = 85545(119.8^\circ) \text{ (V)}$

$I_{ma} = 3716(-56.3^\circ) \text{ (A)}$
 $I_{mb} = 3716(123.7^\circ) \text{ (A)}$
 $I_{mc} = 0(-126.3^\circ) \text{ (A)}$
 $I_{pa} = 0(-59.7^\circ) \text{ (A)}$
 $I_{pb} = 3137(-168.0^\circ) \text{ (A)}$
 $I_{pc} = 3137(12.0^\circ) \text{ (A)}$
 $I_{qa} = 4610(-85.6^\circ) \text{ (A)}$
 $I_{qb} = 4092(157.2^\circ) \text{ (A)}$
 $I_{qc} = 4557(41.4^\circ) \text{ (A)}$
 $I_{sma} = 2617(-57.5^\circ) \text{ (A)}$
 $I_{smb} = 2587(125.0^\circ) \text{ (A)}$
 $I_{smc} = 118(48.4^\circ) \text{ (A)}$
 $I_{rma} = 1101(-53.3^\circ) \text{ (A)}$
 $I_{rmb} = 1131(120.9^\circ) \text{ (A)}$
 $I_{rmc} = 118(-131.6^\circ) \text{ (A)}$
 $I_{spa} = 59(-131.6^\circ) \text{ (A)}$
 $I_{spb} = 1616(-166.8^\circ) \text{ (A)}$
 $I_{spc} = 1664(14.4^\circ) \text{ (A)}$
 $I_{rpa} = 59(48.4^\circ) \text{ (A)}$
 $I_{rpb} = 1521(-169.3^\circ) \text{ (A)}$
 $I_{rpc} = 1475(9.3^\circ) \text{ (A)}$
 $I_{sqa} = 1424(-87.3^\circ) \text{ (A)}$
 $I_{sqb} = 1248(159.8^\circ) \text{ (A)}$
 $I_{sqc} = 1484(41.9^\circ) \text{ (A)}$
 $I_{rqa} = 3186(-84.8^\circ) \text{ (A)}$
 $I_{rqb} = 2846(156.1^\circ) \text{ (A)}$
 $I_{rqc} = 3073(41.1^\circ) \text{ (A)}$

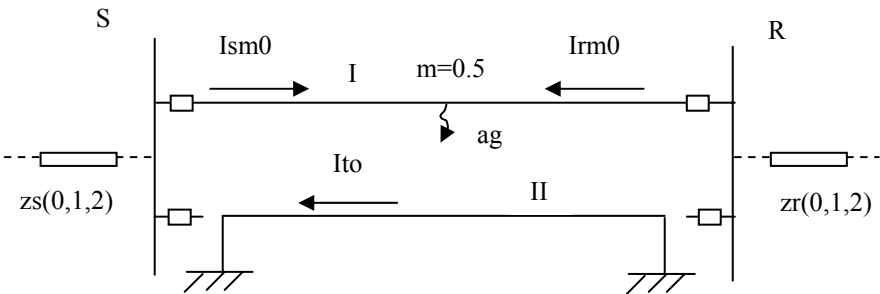
AUTOCHEQUEO DEL PROGRAMA PC173:

Extremo Sm(AB) :	Valor exacto:	$S_m = 5.47 + i(27.29) \text{ (Ohm)}$
	Valor medido:	$S_{m_ZAB} = 5.47 + i(27.29) \text{ (Ohm)}$
Extremo Rm(AB) :	Valor exacto:	$R_m = 12.77 + i(63.68) \text{ (Ohm)}$
	Valor exacto:	$R_{m_ZAB} = 12.77 + i(63.68) \text{ (Ohm)}$
Extremo Sp(BC) :	Valor exacto:	$S_p = 9.12 + i(45.48) \text{ (Ohm)}$
	Valor medido:	$S_{p_ZBC} = 9.12 + i(45.48) \text{ (Ohm)}$
Extremo Rp(BC) :	Valor exacto:	$R_p = 9.12 + i(45.48) \text{ (Ohm)}$
	Valor exacto:	$R_{p_ZBC} = 9.12 + i(45.48) \text{ (Ohm)}$
Extremo Sq(BC) :	Valor exacto:	$S_q = 12.77 + i(63.68) \text{ (Ohm)}$
	Valor medido:	$S_{q_ZBC} = 12.77 + i(63.68) \text{ (Ohm)}$
Extremo Rq(BC) :	Valor exacto:	$R_q = 5.47 + i(27.29) \text{ (Ohm)}$
	Valor exacto:	$R_{q_ZBC} = 5.47 + i(27.29) \text{ (Ohm)}$

Las Variables de Salida de los Programas con Salida Numérica están definidas en el apartado "Nomenclatura: Variables de Salida de los Programas con Salida Numérica" del Manual de Usuario.

Programa PC162:

Esquema:



Programa	PC162		
Entrada Standard	Un=220 kV, kE=1, L=220 km, Sccs=5000 MVA, Sccr=5000 MVA		
	Kr0=1		
	zsr= ∞		
	Compensación 21= No		
Parámetro	$k0 = z_{s0}/z_{r0} = 1$		
Falta Simple m	Falta m	m	0.5
	Línea SR I (Línea SR II abierta y a tierra)	Tipo	ag
		Elemento	AG
		Rfm	0
		Rgm	--
Salida 2	Ohm-Volt-Amp (polar)		autoch01

Salida autoch01 del Programa PC162:

PC162

Esquema Linea Doble SR

Una de las Lineas abierta y puesta a Tierra en ambos extremos

Unominal kV: 400,220,132,66

Ctes. de la Linea Doble, por Linea y por km, segun Unominal

Impedancia de Transferencia: Si,No

Compensacion 21: Si,No

Eleccion: kE,L,Sccs,Sccr,Kr0,k0=zs0/zr0

Falta Simple

Un=220 (kV)

kE=E/En=1

L=220.0(km)

Compensacion 21, Si(1), No(2) =2

Sccs =5000 (MVA)

Sccr =5000 (MVA)

Kr0 =1.0

k0=zs0/zr0=1.0

m =0.50 Falta:ag Rfm(Ohm):0.00

Salida: Ohm-Volt-Amp(cart)=1, Ohm-Volt-Amp(polar)=2 : 2

SALIDA 21, Ohm , polar

Nota: Componentes de Z >=10000 Ohm se representan por Inf

Nota: Componentes de Z <=-10000 Ohm se representan por -Inf

Sm= 46.39(78.7 °)(Ohm)

Rm= 46.39(78.7 °)(Ohm)

Sm_ZAB= 145.44(112.0°)(Ohm)

Sm_ZBC= Inf(-80.5°)(Ohm)

Sm_ZCA= 147.11(48.2 °)(Ohm)

Sm_ZAG= 46.39(78.7 °)(Ohm)

Sm_ZBG= 124.37(-41.3°)(Ohm)

Sm_ZCG= 124.37(-161.3°)(Ohm)

Rm_ZAB= 145.44(112.0°)(Ohm)

Rm_ZBC= Inf(-80.5°)(Ohm)

Rm_ZCA= 147.11(48.2 °)(Ohm)

Rm_ZAG= 46.39(78.7 °)(Ohm)

Rm_ZBG= 124.37(-41.3°)(Ohm)

Rm_ZCG= 124.37(-161.3°)(Ohm)

SALIDA 67N, Volt, Amp, polar

Sm_67N: Vspol=13787 (V) Ismop=1424 (A) AngDirSm=-90.0°

Rm_67N: Vrpel=13787 (V) Irmop=1424 (A) AngDirRm=-90.0°

SALIDA V(0,1,2), I(0,1,2) Volt-Amp polar

Vm0 = 73924(180.0°)(V)
 Vm1 = 100471(0.0 °)(V)
 Vm2 = 26546(-180.0°)(V)
 Vs0 = 4596(-170.6°)(V)
 Vs1 = 122485(-0.4 °)(V)
 Vs2 = 4596(-170.6°)(V)
 Vr0 = 4596(-170.6°)(V)
 Vr1 = 122485(-0.4 °)(V)
 Vr2 = 4596(-170.6°)(V)

Im0 = 950(-80.6°)(A)
 Im1 = 950(-80.6°)(A)
 Im2 = 950(-80.6°)(A)
 Is0 = 475(-80.6°)(A)
 Is1 = 475(-80.6°)(A)
 Is2 = 475(-80.6°)(A)
 Ir0 = 475(-80.6°)(A)
 Ir1 = 475(-80.6°)(A)
 Ir2 = 475(-80.6°)(A)
 Ism0 = 475(-80.6°)(A)
 Ism1 = 475(-80.6°)(A)
 Ism2 = 475(-80.6°)(A)
 Irm0 = 475(-80.6°)(A)
 Irm1 = 475(-80.6°)(A)
 Irm2 = 475(-80.6°)(A)
 It0 = 0(179.8°)(A)

SALIDA V(a,b,c), I(a,b,c) Volt,Amp Polar

Vma = 0(0.0 °)(V)
 Vmb = 156186(-135.2°)(V)
 Vmc = 156197(135.2°)(V)
 Vsa = 113437(-1.1 °)(V)
 Vsb = 127017(-120.0°)(V)
 Vsc = 127017(120.0°)(V)
 Vra = 113437(-1.1 °)(V)
 Vrb = 127017(-120.0°)(V)
 Vrc = 127017(120.0°)(V)

Ima = 2849(-80.6°)(A)
 Imb = 0(-9.9 °)(A)
 Imc = 0(0.0 °)(A)
 Isa = 1424(-80.6°)(A)
 Isb = 0(60.6 °)(A)
 Isc = 0(49.6 °)(A)
 Ira = 1424(-80.6°)(A)
 Irb = 0(0.0 °)(A)
 IRC = 0(10.8 °)(A)
 Isma = 1424(-80.6°)(A)
 Ismb = 0(-15.1°)(A)
 Ismc = 0(-24.8°)(A)
 Irma = 1424(-80.6°)(A)
 Irmb = 0(-24.8°)(A)
 Irmc = 0(-43.0°)(A)

AUTOCHEQUEO DEL PROGRAMA PC162:

Extremo Sm(AG) : Valor exacto: Sm= 46.39 (78.7°) (Ohm)
 Valor medido: Sm_ZAG= 46.39 (78.7°) (Ohm)

Extremo Rm(AG) : Valor exacto: Rm= 46.39 (78.7°) (Ohm)
 Valor exacto: Rm_ZAG= 46.39 (78.7°) (Ohm)

Al ser $I_{t0}=0$ entonces no hay corriente falseante, por lo que coinciden los valores exactos y medidos para Sm(AG) y para Rm(AG)

Las Variables de Salida de los Programas con Salida Numérica están definidas en el apartado "Nomenclatura: Variables de Salida de los Programas con Salida Numérica" del Manual de Usuario.