ANEXO 6

MODELOS DINÁMICOS

Datos de los Modelos de Generadores, Escitadores, Gobernadores y Estabililizadores de Panamá

```
/*  BASE DE DATOS DE PANAMA

/*  MODELO DE GENERADORES DE PANAMA
 101,'GENSAL' ,B1, 4,0.02,0.02,2.69,1,0.99,0.833,0.3452,0.3100,0.16,0.19,0.343/
 102,'GENSAL' ,B2, 4,0.02,0.02,2.69,1,0.99,0.833,0.3452,0.3100,0.16,0.19,0.343/
 108,'GENSAL' ,B3, 5,0.07,0.08,2.96,1,0.90,0.570,0.4000,0.24,0.10,0.92,1.01/
  97,'GENSAL' ,F1,9,0.06,0.09,4.50,1,1.02,0.54,0.3,0.155,0.12,0.2,0.67000/
  98,'GENSAL' ,F2,9,0.06,0.09,4.50,1,1.02,0.54,0.3,0.155,0.12,0.2,0.67000/
  99,'GENSAL' ,F3,9,0.06,0.09,4.50,1,1.02,0.54,0.3,0.155,0.12,0.2,0.67000/
  94,'GENSAL' ,L1,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.11,0.1,0.1,0.50000/
  95,'GENSAL' ,L2,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.11,0.1,0.1,0.50000/
  90,'GENSAL' ,E1,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.11,0.1,0.1,0.50000/
  91,'GENSAL' ,E2,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.11,0.1,0.1,0.50000/
 134,'GENSAL' ,G1,5,0.02,0.09,1.398,1,1.09,0.84,0.47,0.36,0.14,0.19,0.59000/
 135,'GENSAL' ,G2,5,0.02,0.09,1.398,1,1.09,0.84,0.47,0.36,0.14,0.19,0.59000/
 136,'GENSAL' ,G3,5,0.02,0.09,1.398,1,1.09,0.84,0.47,0.36,0.14,0.19,0.59000/
 140,'GENSAL' ,G1,5,0.02,0.09,2.233,1,1.01,0.63,0.33,0.33,0.12,0.19,0.59000/
 140,'GENSAL' ,G2,5,0.02,0.09,2.233,1,1.01,0.63,0.33,0.33,0.12,0.19,0.59000/
 140,'GENSAL' ,G3,5,0.02,0.09,2.233,1,1.01,0.63,0.33,0.33,0.12,0.19,0.59000/
 141,'GENSAL' ,G4,5,0.02,0.09,2.210,1,1.01,0.78,0.38,0.38,0.12,0.19,0.59000/
 141,'GENSAL' ,G5,5,0.02,0.09,1.991,1,1.10,0.78,0.38,0.38,0.12,0.19,0.59000/
 141,'GENSAL' ,G6,5,0.02,0.09,1.991,1,1.10,0.78,0.38,0.38,0.12,0.19,0.59000/
 142,'GENSAL' ,C1,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.30,0.1,0.1,0.50000/
 143,'GENSAL' ,C2,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.30,0.1,0.1,0.50000/
 193,'GENSAL' ,G1,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.30,0.1,0.1,0.50000/
 193,'GENSAL' ,G2,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.30,0.1,0.1,0.50000/
 193,'GENSAL' ,G3,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.30,0.1,0.1,0.50000/
 204,'GENSAL' ,1 ,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.30,0.1,0.1,0.50000/
 204,'GENSAL' ,2 ,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.30,0.1,0.1,0.50000/
 106,'GENSAL' ,M1,4.6,0.035,0.031,0.93,0,1.46,0.80,0.334,0.2576,0.157,0.1,0.50000/
 106,'GENSAL' ,M2,4.6,0.035,0.031,0.93,0,1.46,0.80,0.334,0.2576,0.157,0.1,0.50000/
 106,'GENSAL' ,M3,4.6,0.035,0.031,0.93,0,1.46,0.80,0.334,0.2576,0.157,0.1,0.50000/
 107,'GENSAL' ,M4,4.6,0.035,0.031,0.93,0,1.46,0.80,0.334,0.2576,0.157,0.1,0.50000/
 107,'GENSAL' ,M5,4.6,0.035,0.031,0.93,0,1.46,0.80,0.334,0.2576,0.157,0.1,0.50000/
 107,'GENSAL' ,M6,4.6,0.035,0.031,0.93,0,1.46,0.80,0.334,0.2576,0.157,0.1,0.50000/
  75,'GENSAL' ,P1,3.33,0.021,0.084,0.6369,0,1.84,0.89,0.31,0.257,0.157,0.1,0.50000/
  75,'GENSAL' ,P2,3.33,0.021,0.084,0.6369,0,1.84,0.89,0.31,0.257,0.157,0.1,0.50000/
  75,'GENSAL' ,P3,3.33,0.021,0.084,0.6369,0,1.84,0.89,0.31,0.257,0.157,0.1,0.50000/
  75,'GENSAL' ,P4,3.33,0.021,0.084,0.6369,0,1.84,0.89,0.31,0.257,0.157,0.1,0.50000/
  75,'GENSAL' ,P5,3.33,0.021,0.084,0.6369,0,1.84,0.89,0.31,0.257,0.157,0.1,0.50000/
  75,'GENSAL' ,P6,3.33,0.021,0.084,0.6369,0,1.84,0.89,0.31,0.257,0.157,0.1,0.50000/
  76,'GENSAL' ,1P,3.33,0.021,0.084,0.6369,0,1.84,0.89,0.31,0.257,0.157,0.1,0.50000/
  76,'GENSAL' ,2P,3.33,0.021,0.084,0.6369,0,1.84,0.89,0.31,0.257,0.157,0.1,0.50000/
  76,'GENSAL' ,P0,3.33,0.021,0.084,0.6369,0,1.84,0.89,0.31,0.257,0.157,0.1,0.50000/
  76,'GENSAL' ,P7,3.33,0.021,0.084,0.6369,0,1.84,0.89,0.31,0.257,0.157,0.1,0.50000/
  76,'GENSAL' ,P8,3.33,0.021,0.084,0.6369,0,1.84,0.89,0.31,0.257,0.157,0.1,0.50000/
  76,'GENSAL' ,P9,3.33,0.021,0.084,0.6369,0,1.84,0.89,0.31,0.257,0.157,0.1,0.50000/
 116,'GENSAL' ,P1,5.3,0.038,0.149,0.971,0,1.53,0.830,0.332,0.223,0.14,0.1,0.50000/
 116,'GENSAL' ,P2,5.3,0.038,0.149,0.781,0,1.53,0.830,0.332,0.223,0.14,0.1,0.50000/
 116,'GENSAL' ,P3,5.3,0.038,0.149,0.971,0,1.53,0.830,0.332,0.223,0.14,0.1,0.50000/
  70,'GENROU'  ,J5,8,0.05,0.7,0.1,1.45,0,2.01,1.3,0.171,0.6,0.116,0.06,0.1,0.50000/
  72,'GENROU'  ,T8,5.936,0.022,0.541,0.045,1.45,0,2.078,1.931,0.188,0.377,0.129,0.162,0.1,0.50000/
  73,'GENROU'  ,V9,6.5,0.023,0.7,0.1,1.887,0,1.72,1.61,0.2,0.6,0.16,0.145,0.1,0.40000/
  66,'GENROU'  ,V2,5.1,0.02,0.7,0.1,4.45,0,1.41,1.35,0.156,0.6,0.12,0.06,0.1,0.50000/
  67,'GENROU'  ,V3,5.1,0.02,0.7,0.1,4.45,0,1.41,1.35,0.156,0.6,0.12,0.06,0.1,0.50000/
  68,'GENROU'  ,V4,5.1,0.02,0.7,0.1,4.45,0,1.41,1.35,0.156,0.6,0.12,0.06,0.1,0.50000/
  71,'GENROU'  ,J6,8,0.05,0.7,0.1,1.45,0,2.01,1.3,0.171,0.6,0.116,0.06,0.1,0.50000/
 104,'GENROU'  ,CO,7,0.025,0.60,0.05,1.35,0,2.50,2.30,0.25,0.40,0.20,0.06,0.1,0.50000/
 113,'GENROU'  ,GP,8.8,0.04,0.7,0.1,3.0,0,2.01,1,0.684,0.8,0.561,0.06,0.1,0.50000/
 114,'GENROU'  ,PG,8.8,0.04,0.7,0.1,3.0,0,2.01,1,0.684,0.8,0.561,0.06,0.1,0.50000/
 126,'GENROU'  ,G1,8,0.05,0.7,0.1,0.5414,0,1.56,1.51,0.23,0.23,0.14,0.06,0.1,0.50000/
 127,'GENROU'  ,G2,8,0.05,0.7,0.1,0.5414,0,1.56,1.51,0.23,0.23,0.14,0.06,0.1,0.50000/
 128,'GENROU'  ,G3,5,0.05,0.7,0.1,3.12,0,1.95,1.89,0.33,0.33,0.15,0.055,0.1,0.50000/
 129,'GENROU'  ,G4,5,0.05,0.7,0.1,4.73,0,1.95,1.95,0.3,0.3,0.16,0.05,0.1,0.5000/
 130,'GENROU'  ,G5,5.0,0.05,0.700,0.10,1.45,0,1.8,1.8,0.2,0.2,0.15,0.068,0.1,0.50000/
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151,'GENSAL'  ,1 ,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.11,0.1,0.1,0.50000/
301,'GENSAL' ,C1,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.30,0.1,0.1,0.50000/
303,'GENSAL' ,S1,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.30,0.1,0.1,0.50000/
304,'GENSAL' ,A1,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.30,0.1,0.1,0.50000/
302,'GENSAL' ,P1,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.30,0.1,0.1,0.50000/
305,'GENSAL'  ,1 ,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.11,0.1,0.1,0.50000/
305,'GENSAL'  ,2 ,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.11,0.1,0.1,0.50000/
305,'GENSAL'  ,3 ,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.11,0.1,0.1,0.50000/
307,'GENSAL' ,G1,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.30,0.1,0.1,0.50000/
308,'GENSAL' ,G2,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.30,0.1,0.1,0.50000/
311,'GENSAL'  ,1 ,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.11,0.1,0.1,0.50000/
311,'GENSAL'  ,2 ,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.11,0.1,0.1,0.50000/
312,'GENSAL' ,1 ,4.6,0.035,0.031,0.93,0,1.46,0.80,0.334,0.2576,0.157,0.1,0.50000/
312,'GENSAL' ,2 ,4.6,0.035,0.031,0.93,0,1.46,0.80,0.334,0.2576,0.157,0.1,0.50000/
312,'GENSAL' ,3 ,4.6,0.035,0.031,0.93,0,1.46,0.80,0.334,0.2576,0.157,0.1,0.50000/
313,'GENSAL' ,1 ,4.6,0.035,0.031,0.93,0,1.46,0.80,0.334,0.2240,0.157,0.1,0.50000/
313,'GENSAL' ,2 ,4.6,0.035,0.031,0.93,0,1.46,0.80,0.334,0.2240,0.157,0.1,0.50000/
314,'GENSAL' ,1 ,4.6,0.035,0.031,0.93,0,1.46,0.80,0.334,0.2576,0.157,0.1,0.50000/
314,'GENSAL' ,2 ,4.6,0.035,0.031,0.93,0,1.46,0.80,0.334,0.2576,0.157,0.1,0.50000/
314,'GENSAL' ,3 ,4.6,0.035,0.031,0.93,0,1.46,0.80,0.334,0.2576,0.157,0.1,0.50000/
315,'GENSAL' ,1 ,4.6,0.035,0.031,0.93,0,1.46,0.80,0.334,0.2576,0.157,0.1,0.50000/
315,'GENSAL' ,2 ,4.6,0.035,0.031,0.93,0,1.46,0.80,0.334,0.2576,0.157,0.1,0.50000/
316,'GENSAL'  ,1 ,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.11,0.1,0.1,0.50000/
316,'GENSAL'  ,2 ,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.11,0.1,0.1,0.50000/
317,'GENSAL' ,M1 ,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.30,0.1,0.1,0.50000/
317,'GENSAL' ,M2 ,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.30,0.1,0.1,0.50000/
318,'GENSAL' ,1 ,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.30,0.1,0.1,0.50000/
319,'GENSAL' ,2 ,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.30,0.1,0.1,0.50000/
340,'GENSAL' ,P1,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.11,0.1,0.1,0.50000/
342,'GENSAL' ,1 ,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.11,0.1,0.1,0.50000/
342,'GENSAL' ,2 ,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.11,0.1,0.1,0.50000/
343,'GENSAL' ,1 ,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.11,0.1,0.1,0.50000/
343,'GENSAL' ,2 ,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.11,0.1,0.1,0.50000/
343,'GENSAL' ,3 ,7,0.06,0.09,2.44,1,1.09,0.62,0.2,0.11,0.1,0.1,0.50000/
516,'GENSAL' ,G1,5.3,0.038,0.149,0.971,0,1.53,0.830,0.332,0.223,0.14,0.1,0.50000/
516,'GENSAL' ,G2,5.3,0.038,0.149,0.971,0,1.53,0.830,0.332,0.223,0.14,0.1,0.50000/
516,'GENSAL' ,G3,5.3,0.038,0.149,0.971,0,1.53,0.830,0.332,0.223,0.14,0.1,0.50000/
517,'GENSAL' ,G4,5.3,0.038,0.149,0.971,0,1.53,0.830,0.332,0.223,0.14,0.1,0.50000/
517,'GENSAL' ,G5,5.3,0.038,0.149,0.971,0,1.53,0.830,0.332,0.223,0.14,0.1,0.50000/
517,'GENSAL' ,G6,5.3,0.038,0.149,0.971,0,1.53,0.830,0.332,0.223,0.14,0.1,0.50000/
517,'GENSAL' ,G7,5.3,0.038,0.149,0.971,0,1.53,0.830,0.332,0.223,0.14,0.1,0.50000/

/*    MODELO DE GOBERNADORES DE PANAMA
 101,'HYGOV'   ,B1,0.03,0.8,14.5,0.03,1,0.167,0.893,0.266,1.15,1.36,0.5,0.08/
 102,'HYGOV'   ,B2,0.03,0.8,14.5,0.03,1,0.167,0.893,0.266,1.15,1.36,0.5,0.08/
 108,'HYGOV'   ,B3,0.03,0.8,14.5,0.03,1,0.167,0.870,0.260,1.15,1.36,0.5,0.08/
  97,'HYGOV'   ,F1,0.03,0.5,11.8,0.03,0.2,0.167,0.95,0.05,1.85,1.05,0.5,0.08/
  98,'HYGOV'   ,F2,0.03,0.5,11.8,0.03,0.2,0.167,0.95,0.05,1.85,1.05,0.5,0.08/
  99,'HYGOV'   ,F3,0.03,0.5,11.8,0.03,0.2,0.167,0.95,0.05,1.85,1.05,0.5,0.08/
  94,'HYGOV'   ,L1,0.03,1.0,14,0.025,0.2,0.167,1.2,0.01,2.8,1.05,0.5,0.08/
  95,'HYGOV'   ,L2,0.03,1.0,14,0.025,0.2,0.167,1.2,0.01,2.8,1.05,0.5,0.08/
  90,'HYGOV'   ,E1,0.03,1.0,16,0.025,0.2,0.167,1.2,0.01,2.52,1.05,0.5,0.08/
  91,'HYGOV'   ,E2,0.03,1.0,16,0.025,0.2,0.167,1.2,0.01,2.52,1.05,0.5,0.08/
 134,'HYGOV'   ,G1,0.03,1.0,16,0.025,0.2,0.167,0.923,0.05,2.52,1.05,0.5,0.08/
 135,'HYGOV'   ,G2,0.03,1.0,16,0.025,0.2,0.167,0.923,0.05,2.52,1.05,0.5,0.08/
 136,'HYGOV'   ,G3,0.03,1.0,16,0.025,0.2,0.167,0.923,0.05,2.52,1.05,0.5,0.08/
  73,'TGOV1'   ,V9,0.06,0.05,0.859,0.0,1,3,0.00/
  66,'TGOV1'   ,V2,0.06,0.05,0.851,0.0,1,3,0.00/
  67,'TGOV1'   ,V3,0.06,0.05,0.851,0.0,1,3,0.00/
  68,'TGOV1'   ,V4,0.06,0.05,0.851,0.0,1,3,0.00/
 128,'TGOV1'   ,G3,0.03,0.05,0.74,0.327,1,3,0.00/
 129,'TGOV1'   ,G4,0.03,0.05,0.74,0.1,1,3,0.00/
  70,'GAST'    ,J5,0.04,0.05,0.05,3,1,2,0.84,0.05,0.5/
  71,'GAST'    ,J6,0.04,0.05,0.05,3,1,2,0.84,0.05,0.5/
  72,'GAST'    ,T8,0.04,0.05,0.05,3,1,2,0.7,0.05,0.5/
 104,'GAST'    ,CO,0.03,0.015,0.2,5,1.05,0.67,0.84,0,0.5/
 113,'GAST'    ,GP,0.04,0.2,0.05,3,1,2,0.69,0.05,0.5/
 114,'GAST'    ,PG,0.04,0.2,0.05,3,1,2,0.69,0.05,0.5/
 126,'GAST'    ,G1,0.03,0.01,0.05,3,1,2,0.74,0.05,0.5/
 127,'GAST'    ,G2,0.03,0.01,0.05,3,1,2,0.74,0.05,0.5/
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130,'GAST'    ,G5,0.03,0.01,0.05,3,1,2,0.7,0.05,0.5/
106,'DEGOV1'  ,M1,0,5,0.05,0.95,15,5.1,0.322,0.0,0.002,0.8,0.387,0.03,0.05/
106,'DEGOV1'  ,M2,0,5,0.05,0.95,15,5.1,0.322,0.0,0.002,0.8,0.387,0.03,0.05/
106,'DEGOV1'  ,M3,0,5,0.05,0.95,15,5.1,0.322,0.0,0.002,0.8,0.387,0.03,0.05/
107,'DEGOV1'  ,M4,0,5,0.05,0.95,15,5.1,0.322,0.0,0.002,0.8,0.387,0.03,0.05/
107,'DEGOV1'  ,M5,0,5,0.05,0.95,15,5.1,0.322,0.0,0.002,0.8,0.387,0.03,0.05/
107,'DEGOV1'  ,M6,0,5,0.05,0.95,15,5.1,0.322,0.0,0.002,0.8,0.387,0.03,0.05/
 75,'DEGOV1'  ,P1,0,5,0.0476,1,15,5.1,0.25,0,0.002,0.943,0,0.03,0.05/
 75,'DEGOV1'  ,P2,0,5,0.0476,1,15,5.1,0.25,0,0.002,0.943,0,0.03,0.05/
 75,'DEGOV1'  ,P3,0,5,0.0476,1,15,5.1,0.25,0,0.002,0.943,0,0.03,0.05/
 75,'DEGOV1'  ,P4,0,5,0.0476,1,15,5.1,0.25,0,0.002,0.943,0,0.03,0.05/
 75,'DEGOV1'  ,P5,0,5,0.0476,1,15,5.1,0.25,0,0.002,0.943,0,0.03,0.05/
 75,'DEGOV1'  ,P6,0,5,0.0476,1,15,5.1,0.25,0,0.002,0.943,0,0.03,0.05/
 76,'DEGOV1'  ,1P,0,5,0.0476,1,15,5.1,0.25,0,0.002,0.943,0,0.03,0.05/
 76,'DEGOV1'  ,2P,0,5,0.0476,1,15,5.1,0.25,0,0.002,0.943,0,0.03,0.05/
 76,'DEGOV1'  ,P0,0,5,0.0476,1,15,5.1,0.25,0,0.002,0.943,0,0.03,0.05/
 76,'DEGOV1'  ,P7,0,5,0.0476,1,15,5.1,0.25,0,0.002,0.943,0,0.03,0.05/
 76,'DEGOV1'  ,P8,0,5,0.0476,1,15,5.1,0.25,0,0.002,0.943,0,0.03,0.05/
 76,'DEGOV1'  ,P9,0,5,0.0476,1,15,5.1,0.25,0,0.002,0.943,0,0.03,0.05/
116,'DEGOV1'  ,P1,0,5,0.05,0.95,15,5.1,0.322,0.0,0.002,0.8,0.387,0.03,0.05/
116,'DEGOV1'  ,P2,0,5,0.05,0.95,15,5.1,0.322,0.0,0.002,0.8,0.387,0.03,0.05/
116,'DEGOV1'  ,P3,0,5,0.05,0.95,15,5.1,0.322,0.0,0.002,0.8,0.387,0.03,0.05/
193,'HYGOV'   ,G1,0.03,1.0,16,0.025,0.2,0.167,0.8,0.05,2.52,1.05,0.5,0.08/
193,'HYGOV'   ,G2,0.03,1.0,16,0.025,0.2,0.167,0.8,0.05,2.52,1.05,0.5,0.08/
193,'HYGOV'   ,G3,0.03,1.0,16,0.025,0.2,0.167,0.8,0.05,2.52,1.05,0.5,0.08/
204,'HYGOV'   ,1 ,0.03,1.0,16,0.025,0.2,0.167,2.95,0.05,2.52,1.05,0.5,0.08/
204,'HYGOV'   ,2 ,0.03,1.0,16,0.025,0.2,0.167,2.95,0.05,2.52,1.05,0.5,0.08/
151,'HYGOV'   ,1 ,0.03,1.0,16,0.025,0.2,0.167,0.8,0.05,2.52,1.05,0.5,0.08/
301,'HYGOV'   ,C1,0.03,1.0,16,0.025,0.2,0.167,0.8,0.05,2.52,1.05,0.5,0.08/
303,'HYGOV'   ,S1,0.03,1.0,16,0.025,0.2,0.167,0.8,0.05,2.52,1.05,0.5,0.08/
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302,'HYGOV'   ,P1,0.03,1.0,16,0.025,0.2,0.167,1.2,0.01,2.52,1.05,0.5,0.08/
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305,'HYGOV'   ,3 ,0.03,1.0,16,0.025,0.2,0.167,1.2,0.01,2.52,1.05,0.5,0.08/
142,'HYGOV'   ,C1,0.03,0.8,4,0.03,0.2,0.167,0.87,0.45,1,1.2,0.5,0.08/
143,'HYGOV'   ,C2,0.03,0.8,4,0.03,0.2,0.167,0.87,0.45,1,1.2,0.5,0.08/
307,'HYGOV'   ,G1,0.03,0.8,4,0.03,0.2,0.167,0.87,0.45,1,1.2,0.5,0.08/
308,'HYGOV'   ,G2,0.03,0.8,4,0.03,0.2,0.167,0.87,0.45,1,1.2,0.5,0.08/
311,'HYGOV'   ,1 ,0.03,1.0,16,0.025,0.2,0.167,0.8,0.05,2.52,1.05,0.5,0.08/
311,'HYGOV'   ,2 ,0.03,1.0,16,0.025,0.2,0.167,0.8,0.05,2.52,1.05,0.5,0.08/
312,'DEGOV1'  ,1 ,0,5,0.05,0.95,15,5.1,0.322,0.0,0.002,0.8,0.387,0.03,0.05/
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315,'DEGOV1'  ,2 ,0,5,0.05,0.95,15,5.1,0.322,0.0,0.002,0.8,0.387,0.03,0.05/
316,'HYGOV'   ,1 ,0.03,1.0,16,0.025,0.2,0.167,1.2,0.02,2.52,1.05,0.5,0.08/
316,'HYGOV'   ,2 ,0.03,1.0,16,0.025,0.2,0.167,1.2,0.02,2.52,1.05,0.5,0.08/
317,'HYGOV'   ,M1 ,0.03,1.0,16,0.025,0.2,0.167,0.8,0.05,2.52,1.05,0.5,0.08/
317,'HYGOV'   ,M2 ,0.03,1.0,16,0.025,0.2,0.167,0.8,0.05,2.52,1.05,0.5,0.08/
318,'HYGOV'   ,1 ,0.03,0.8,4,0.03,0.2,0.167,0.87,0.45,1,1.2,0.5,0.08/
319,'HYGOV'   ,2 ,0.03,0.8,4,0.03,0.2,0.167,0.87,0.45,1,1.2,0.5,0.08/
340,'HYGOV'   ,P1,0.03,1.0,16,0.025,0.2,0.167,1.2,0.01,2.52,1.05,0.5,0.08/
342,'HYGOV'   ,1 ,0.03,1.0,16,0.025,0.2,0.167,1.2,0.01,2.52,1.05,0.5,0.08/
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343,'HYGOV'   ,1 ,0.03,1.0,14,0.025,0.2,0.167,1.2,0.01,2.8,1.05,0.5,0.08/
343,'HYGOV'   ,2 ,0.03,1.0,14,0.025,0.2,0.167,1.2,0.01,2.8,1.05,0.5,0.08/
343,'HYGOV'   ,3 ,0.03,1.0,14,0.025,0.2,0.167,1.2,0.01,2.8,1.05,0.5,0.08/
516,'DEGOV1'  ,G1,0,5,0.05,0.95,15,5.1,0.322,0.0,0.002,0.8,0.387,0.03,0.05/
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517,'DEGOV1'  ,G6,0,5,0.05,0.95,15,5.1,0.322,0.0,0.002,0.8,0.387,0.03,0.05/
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/*    MODELO DE EXCITADORES DE PANAMA
 101,'EXST1'  ,B1,0.025,3,-3,0.0050,0.088,60,0.00133,6,-5.3,0.02,0.1,1.5/
 102,'EXST1'  ,B2,0.025,3,-3,0.0050,0.088,60,0.00133,6,-5.3,0.02,0.1,1.5/
 108,'EXST1'  ,B3,0.025,4,-1,0.0080,0.088,50,0.005,10,-10,0.02,0.10,1.5/
  97,'EXST1'  ,F1,0.025,3,-3,0.0080,0.088,60,0.00133,6,-5.3,0,0.0,0.3/
  98,'EXST1'  ,F2,0.025,3,-3,0.0080,0.088,60,0.00133,6,-5.3,0,0.0,0.3/
  99,'EXST1'  ,F3,0.025,3,-3,0.0080,0.088,60,0.00133,6,-5.3,0,0.0,0.3/
  94,'EXST1'  ,L1,0.025,3,-3,0.0080,0.088,80,0.0027,3,-3,0.02,0.1,1.5/
  95,'EXST1'  ,L2,0.025,3,-3,0.0080,0.088,80,0.0027,3,-3,0.02,0.1,1.5/
  90,'EXST1'  ,E1,0.025,3,-3,0.0080,0.088,100,0.0027,3,-3,0.02,0.1,1.5/
  91,'EXST1'  ,E2,0.025,3,-3,0.0080,0.088,100,0.0027,3,-3,0.02,0.1,1.5/
  70,'IEEET2' ,J5,0.025,400,0.1,6.59,0,1,1.3,0.2,5,1.3,2.4,0.03,5,0.5/
  71,'IEEET2' ,J6,0.025,400,0.1,6.59,0,1,1.3,0.2,5,1.3,2.4,0.03,5,0.5/
  72,'ESST4B' ,T8,0,3.38,3.38,1,-0.87,0.01,1,0,1,-0.87,0,5.92,0,7.4,0.11,0,2/
  73,'EXAC4'  ,V9,0,0.2,-0.2,1.149,22.97,1000,0.002,5.236,-4.189,0/
  66,'IEEET1' ,V2,0,217.03,1,3,-3,1,0.8,0.078,0.726,0,2.4,0.03,5,0.5/
  67,'IEEET1' ,V3,0,126.37,1,3,-3,1,0.8,0.078,0.726,0,2.4,0.03,5,0.5/
  68,'IEEET1' ,V4,0,126.37,1,2,0,1,0.8,0.078,0.726,0,2.4,0.03,5,0.5/
 104,'EXAC1'  ,CO,0,1,1,4000,0.05,56,0,1.5,0.025,0.4,0.1,2,1,9,0.001,10,0.01/
 106, 'ESAC8B'  ,M1,0,100,150,25,0.03,1,0,10,0,1,1,3.8,1.36,4.5,1.5/
 106, 'ESAC8B'  ,M2,0,100,150,25,0.03,1,0,10,0,1,1,3.8,1.36,4.5,1.5/
 106, 'ESAC8B'  ,M3,0,100,150,25,0.03,1,0,10,0,1,1,3.8,1.36,4.5,1.5/
 107, 'ESAC8B'  ,M4,0,100,150,25,0.03,1,0,10,0,1,1,3.8,1.36,4.5,1.5/
 107, 'ESAC8B'  ,M5,0,100,150,25,0.03,1,0,10,0,1,1,3.8,1.36,4.5,1.5/
 107, 'ESAC8B'  ,M6,0,100,150,25,0.03,1,0,10,0,1,1,3.8,1.36,4.5,1.5/
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 116, 'ESAC8B'  ,P2,0,100,150,25,0.03,1,0,10,0,1,1,3.8,1.36,4.5,1.5/
 116, 'ESAC8B'  ,P3,0,100,150,25,0.03,1,0,10,0,1,1,3.8,1.36,4.5,1.5/
  75, 'SEXS'  ,P1,0.1,10,100,0.05,0,2.5/
  75, 'SEXS'  ,P2,0.1,10,100,0.05,0,2.5/
  75, 'SEXS'  ,P3,0.1,10,100,0.05,0,2.5/
  75, 'SEXS'  ,P4,0.1,10,100,0.05,0,2.5/
  75, 'SEXS'  ,P5,0.1,10,100,0.05,0,2.5/
  75, 'SEXS'  ,P6,0.1,10,100,0.05,0,2.5/
  76, 'SEXS'  ,1P,0.1,10,100,0.05,0,2.5/
  76, 'SEXS'  ,2P,0.1,10,100,0.05,0,2.5/
  76, 'SEXS'  ,P0,0.1,10,100,0.05,0,2.5/
  76, 'SEXS'  ,P7,0.1,10,100,0.05,0,2.5/
  76, 'SEXS'  ,P8,0.1,10,100,0.05,0,2.5/
  76, 'SEXS'  ,P9,0.1,10,100,0.05,0,2.5/
 113, 'SEXS'  ,GP,0.2,10,100,0.05,0,4/
 114, 'SEXS'  ,PG,0.2,10,100,0.05,0,4/
 126, 'SEXS'  ,G1,0.2,10,100,0.05,0,4/
 127, 'SEXS'  ,G2,0.2,10,100,0.05,0,4/
 128, 'SEXS'  ,G3,0.1,10,100,0.05,0,4/
 129, 'SEXS'  ,G4,0.1,10,100,0.05,0,4/
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 135, 'SEXS'  ,G2,0.1,10,100,0.05,0,4/
 136, 'SEXS'  ,G3,0.1,10,100,0.05,0,4/
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 140, 'SEXS'  ,G2,0.1,10,100,0.05,0,4/
 140, 'SEXS'  ,G3,0.1,10,100,0.05,0,4/
 141, 'SEXS'  ,G4,0.1,10,100,0.05,0,4/
 141, 'SEXS'  ,G5,0.1,10,100,0.05,0,4/
 141, 'SEXS'  ,G6,0.1,10,100,0.05,0,4/
 193,'EXST1'  ,G1,0.025,3,-3,0.0080,0.088,100,0.0027,3,-3,0.02,0.1,1.5/
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 305,'EXST1'  ,2 ,0.025,3,-3,0.0080,0.088,100,0.0027,3,-3,0.02,0.1,1.5/
 305,'EXST1'  ,3 ,0.025,3,-3,0.0080,0.088,100,0.0027,3,-3,0.02,0.1,1.5/
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142,'EXST1'  ,C1,0.02,10,-10,0.025,0.10,30,0.05,3.5,-3.1,0.06,0.1,1.5/
143,'EXST1'  ,C2,0.02,10,-10,0.025,0.10,30,0.05,3.5,-3.1,0.06,0.1,1.5/
307,'EXST1'  ,G1,0.02,10,-10,0.025,0.10,30,0.05,3.5,-3.1,0.06,0.1,1.5/
308,'EXST1'  ,G2,0.02,10,-10,0.025,0.10,30,0.05,3.5,-3.1,0.06,0.1,1.5/
311,'EXST1'  ,1 ,0.025,3,-3,0.0080,0.088,100,0.0027,3,-3,0.02,0.1,1.5/
311,'EXST1'  ,2 ,0.025,3,-3,0.0080,0.088,100,0.0027,3,-3,0.02,0.1,1.5/
312,'ESAC8B' ,1 ,0,100,150,25,0.03,1,0,10,0,1,1,3.8,1.36,4.5,1.5/
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315,'ESAC8B' ,2 ,0,100,150,25,0.03,1,0,10,0,1,1,3.8,1.36,4.5,1.5/
314,'ESAC8B' ,3 ,0,100,150,25,0.03,1,0,10,0,1,1,3.8,1.36,4.5,1.5/
316,'EXST1'  ,1 ,0.025,3,-3,0.0080,0.088,100,0.0027,3,-3,0.02,0.1,1.5/
316,'EXST1'  ,2 ,0.025,3,-3,0.0080,0.088,100,0.0027,3,-3,0.02,0.1,1.5/
317,'EXST1'  ,M1 ,0.025,3,-3,0.0080,0.088,100,0.0027,3,-3,0.02,0.1,1.5/
317,'EXST1'  ,M2 ,0.025,3,-3,0.0080,0.088,100,0.0027,3,-3,0.02,0.1,1.5/
318,'EXST1'  ,1 ,0.02,10,-10,0.025,0.10,30,0.05,3.5,-3.1,0.06,0.1,1.5/
318,'EXST1'  ,2 ,0.02,10,-10,0.025,0.10,30,0.05,3.5,-3.1,0.06,0.1,1.5/
340,'EXST1'  ,P1,0.025,3,-3,0.0080,0.088,100,0.0027,3,-3,0.02,0.1,1.5/
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516, 'ESAC8B'  ,G1,0,100,150,25,0.03,1,0,10,0,1,1,3.8,1.36,4.5,1.5/
516, 'ESAC8B'  ,G2,0,100,150,25,0.03,1,0,10,0,1,1,3.8,1.36,4.5,1.5/
516, 'ESAC8B'  ,G3,0,100,150,25,0.03,1,0,10,0,1,1,3.8,1.36,4.5,1.5/

/*    MODELO DE ESTABILIZADORES DE PANAMA
 97,'STAB2A'  ,F1,1.0,4.4,10,1.8,1,1.41,0.01,0.05/
 98,'STAB2A'  ,F2,1.0,4.4,10,1.8,1,1.41,0.01,0.05/
 99,'STAB2A'  ,F3,1.0,4.4,10,1.8,1,1.41,0.01,0.05/
101,'STAB2A'  ,B1,1.0,4.4,7.85,1.8,0.785,1.41,0.01,0.03/
102,'STAB2A'  ,B2,1.0,4.4,7.85,1.8,0.785,1.41,0.01,0.03/
108,'STAB2A'  ,B3,1.0,4.5,25,2,5,1,0.01,0.03/
```
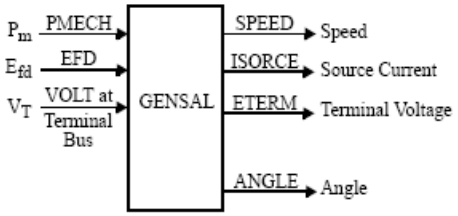

MODELOS DE GENERADORES

GENSAL

Salient Pole Generator Model (Quadratic Saturation on d-Axis)

This model is located at system bus #_____ IBUS,
machine #_____ I.
This model uses CONs starting with #_____ J,
and STATEs starting with #_____ K.
The machine MVA is _____ for each of units = _____ MBASE.
ZSORCE for this machine is _____ + j _____ on the above MBASE.



CONs	#	Value	Description
J			T'_{do} (>0) (sec)
J+1			T''_{do} (>0) (sec)
J+2			T''_{qo} (>0) (sec)
J+3			Inertia, H
J+4			Speed damping, D
J+5			X_d
J+6			X_q
J+7			X'_d
J+8			$X''_d = X''_q$
J+9			X_l
J+10			S(1.0)
J+11			S(1.2)

STATEs	#	Description
K		E'_q
K+1		ψ''_q
K+2		ψkd
K+3		Δ speed (pu)
K+4		Angle (radians)

Note: X_d, X_q, X'_d, X''_d, X''_q, X_l, H, and D are in pu, machine MVA base.

X''_q must be equal to X''_d.

IBUS, 'GENSAL', I, T'_{do}, T''_{do}, T''_{qo}, H, D, X_d, X_q, X'_d, X''_d, X_l, S(1.0), S(1.2)/

GENROU

Round Rotor Generator Model (Quadratic Saturation)

This model is located at system bus #_____ IBUS,

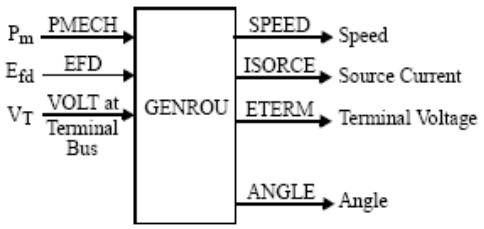
machine #_____ I.

This model uses CONs starting with #_____ J,

and STATEs starting with #_____ K,

The machine MVA is _____ for each of _____ units = _____ MBASE.

ZSORCE for this machine is _____ + j _____ on the above MBASE



CONs	#	Value	Description
J			T'_{do} (>0) (sec)
J+1			T''_{do} (>0) (sec)
J+2			T'_{qo} (>0) (sec)
J+3			T''_{qo} (>0) (sec)
J+4			Inertia, H
J+5			Speed damping, D
J+6			X_d
J+7			X_q
J+8			X'_d
J+9			X'_q
J+10			$X''_d = X''_q$
J+11			X_l
J+12			S(1.0)
J+13			S(1.2)

STATEs	#	Description
K		E'_q
K+1		E'_d
K+2		ψkd
K+3		ψkq
K+4		Δ speed (pu)
K+5		Angle (radians)

Note: X_d, X_q, X'_d, X'_q, X''_d, X''_q, X_l, H, and D are in pu, machine MVA base.

X''_q must be equal to X''_d.

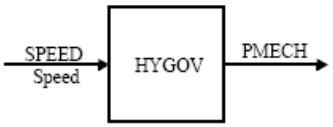
IBUS, 'GENROU', I, T'_{do}, T''_{do}, T'_{qo}, T''_{qo}, H, D, X_d, X_q, X'_d, X'_q, X''_d, X_l, S(1.0), S(1.2)/

MODELOS DE GOBERNADORES

HYGOV

Hydro Turbine-Governor

This model is located at system bus #_____ IBUS,
machine #_____ I.
This model uses CONs starting with #_____ J,
and STATEs starting with #_____ K,
and VARs starting with #_____ L.

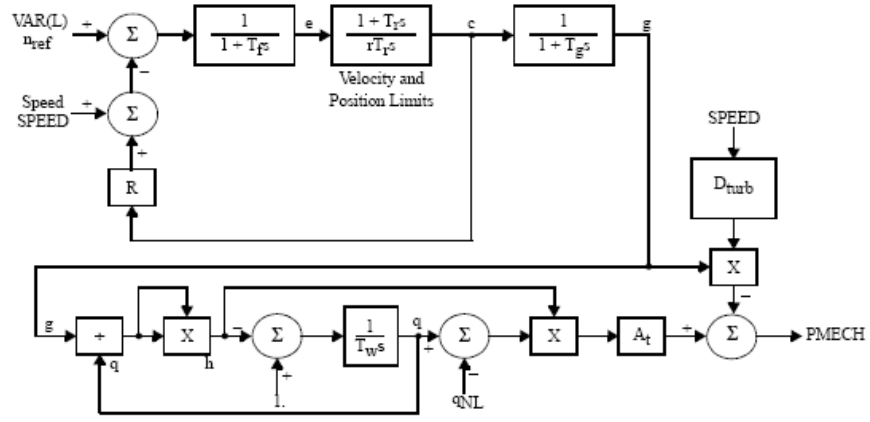


CONs	#	Value	Description
J			R, permanent droop
J+1			r, temporary droop
J+2			T_r (>0) governor time constant
J+3			T_f (>0) filter time constant
J+4			T_g (>0) servo time constant
J+5			± VELM, gate velocity limit
J+6			G_{MAX}, maximum gate limit
J+7			G_{MIN}, minimum gate limit
J+8			T_W (>0) water time constant
J+9			A_t, turbine gain
J+10			D_{turb}, turbine damping
J+11			q_{NL}, no load flow

STATEs	#	Description
K		e, filter output
K+1		c, desired gate
K+2		g, gate opening
K+3		q, turbine flow

VARs	#	Description
L		Speed reference
L+1		h, turbine head

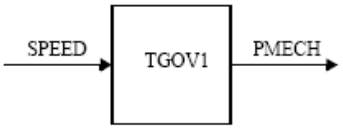
IBUS, 'HYGOV', I, R, r, T_r, T_f, T_g, VELM, G_{MAX}, G_{MIN}, T_W, A_t, D_{turb}, q_{NL}/



TGOV1

Steam Turbine-Governor

This model is located at system bus #_____ IBUS,
machine #_____ I.
This model uses CONs starting with #_____ J,
and STATEs starting with #_____ K,
and VAR #_____ L.



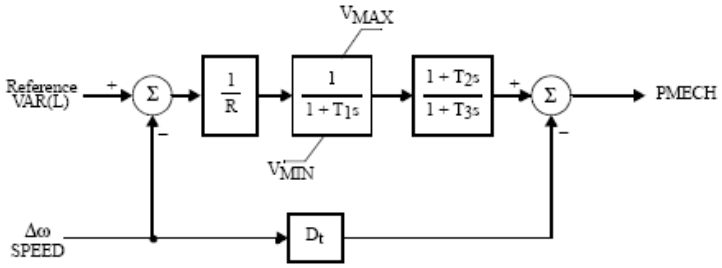
CONs	#	Value	Description
J			R
J+1			T_1 (>0) (sec)
J+2			V_{MAX}
J+3			V_{MIN}
J+4			T_2 (sec)
J+5			T_3 (>0) (sec)
J+6			D_t

STATEs	#	Description
K		Valve opening
K+1		Turbine power

VAR	#	Description
L		Reference

Note: V_{MAX}, V_{MIN}, D_t are in per unit on generator base.
T_2/T_3 = high-pressure fraction.
T_3 = reheater time constant.

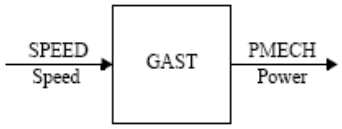
IBUS, 'TGOV1', I, R, T_1, V_{MAX}, V_{MIN}, T_2, T_3, D_t/



GAST

Gas Turbine-Governor

This model is located at system bus #_____ IBUS,
machine #_____ I.
This model uses CONs starting with #_____ J,
and STATEs starting with #_____ K,
and VAR #_____ L.

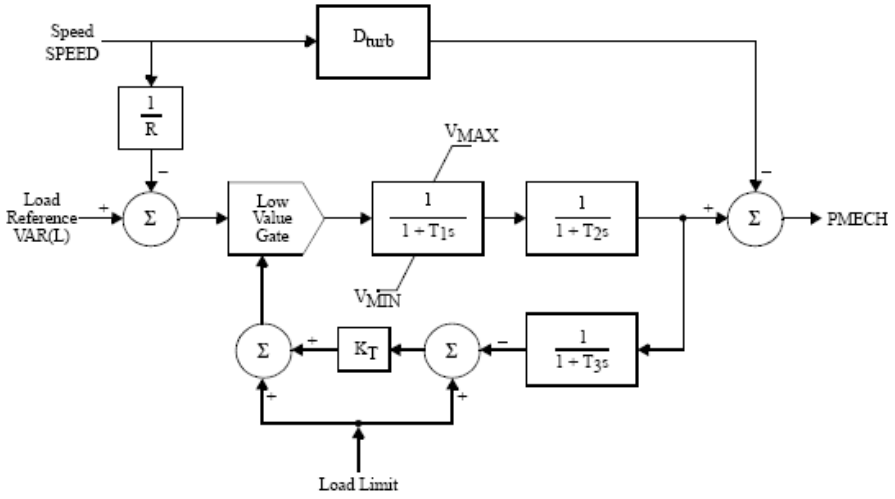


CONs	#	Value	Description
J			R (speed droop)
J+1			T_1 (>0) (sec)
J+2			T_2 (>0) (sec)
J+3			T_3 (>0) (sec)
J+4			Ambient temperature load limit, AT
J+5			K_T
J+6			V_{MAX}
J+7			V_{MIN}
J+8			D_{turb}

STATEs	#	Description
K		Fuel valve
K+1		Fuel flow
K+2		Exhaust temperature

VAR	#	Description
L		Load reference

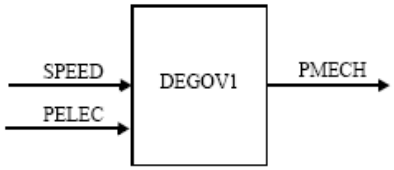
IBUS, 'GAST', I, R, T_1, T_2, T_3, AT, K_T, V_{MAX}, V_{MIN}, D_{turb}/



DEGOV1

Woodward Diesel Governor

This model is located at system bus #_____ IBUS,
machine #_____ I.
This model uses CONs starting with #_____ J,
and ICON #_____ M,
and STATEs starting with #_____ K,
and VARs starting with #_____ L.



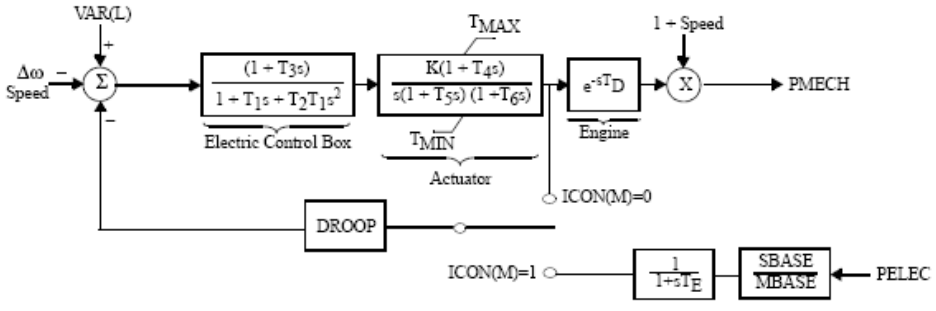
ICON	#	Value	Description
M			Droop control: 0 = Throttle feedback 1 = Electric power feedback

CONs	#	Value	Description
J			T_1 (sec)
J+1			T_2 (sec)
J+2			T_3 (sec)
J+3			K
J+4			T_4 (sec)
J+5			T_5 (sec)
J+6			T_6 (sec)
J+7			T_D ($0 \leq T_D \leq 12 * DELT$) (sec)
J+8			T_{MAX}
J+9			T_{MIN}
J+10			Droop
J+11			T_E

STATEs	#	Description
K		Electric control box 1
K+1		Electric control box 2
K+2		Actuator 1
K+3		Actuator 2
K+4		Actuator 3
K+5		Power transducer

VARs	#	Description
L		Reference
L+1		Delay table
.		
.		
.		
L+13		

IBUS, 'DEGOV1', I, Droop Control, T_1, T_2, T_3, K, T_4, T_5, T_6, T_D, T_{MAX}, T_{MIN}/, Droop, T_E/

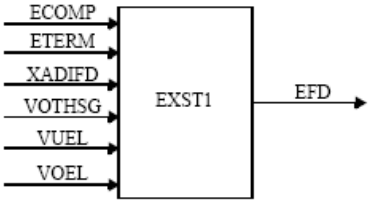


MODELOS DE EXCITADORES

EXST1

IEEE Type ST1 Excitation System

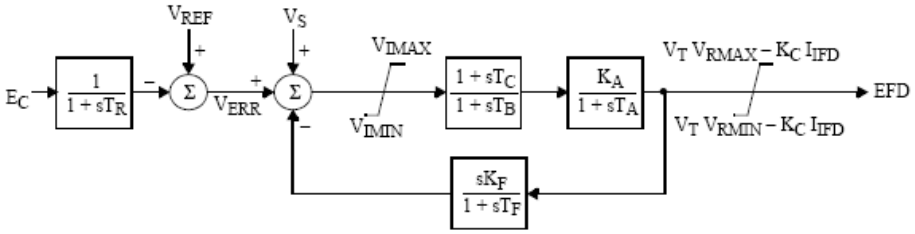
This model is located at system bus #_____ IBUS,
machine #_____ I.
This model uses CONs starting with #_____ J,
and STATEs starting with #_____ K.



CONs	#	Value	Description
J			T_R
J+1			V_{IMAX}
J+2			V_{IMIN}
J+3			T_C
J+4			T_B (sec)
J+5			K_A
J+6			T_A (sec)
J+7			V_{RMAX}
J+8			V_{RMIN}
J+9			K_C
J+10			K_F
J+11			T_F (> 0) (sec)

STATEs	#	Description
K		$V_{measured}$
K+1		Lead lag
K+2		V_R
K+3		Feedback

IBUS, 'EXST1', I, T_R, V_{IMAX}, V_{IMIN}, T_C, T_B, K_A, T_A, V_{RMAX}, V_{RMIN}, K_C, K_F, T_F/

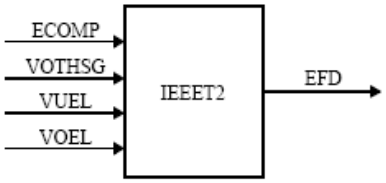


V_S = VOTHSG + VUEL + VOEL

IEEET2

IEEE Type 2 Excitation System

This model is located at system bus #_____ IBUS,
machine #_____ I.
This model uses CONs starting with #_____ J,
and STATEs starting with #_____ K,
and VAR #_____ L.



CONs	#	Value	Description
J			T_R (sec)
J+1			K_A
J+2			T_A (sec)
J+3			V_{RMAX} or zero
J+4			V_{RMIN}
J+5			K_E
J+6			T_E (>0) (sec)
J+7			K_F
J+8			T_{F1} (>0) (sec)
J+9			T_{F2} (>0) (sec)
J+10			E_1
J+11			$S_E(E_1)$
J+12			E_2
J+13			$S_E(E_2)$

STATEs	#	Description
K		Sensed V_T
K+1		Regulator output, V_R
K+2		Exciter output, EFD
K+3		First feedback integrator
K+4		Second feedback integrator

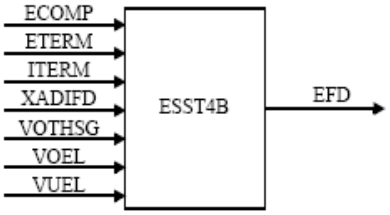
VARs	#	Description
L		K_E

IBUS, 'IEEET2', I, T_R, K_A, T_A, V_{RMAX}, V_{RMIN}, K_E, T_E, K_F, T_{F1}, T_{F2}, E_1, $S_E(E_1)$, E_2, $S_E(E_2)$/

ESST4B

IEEE Type ST4B Potential or Compounded Source-Controlled Rectifier Exciter

This model is located at system bus #_____ IBUS,
machine #_____ I.
This model uses CONs starting with #_____ J,
and STATEs starting with #_____ K.



CONs	#	Value	Description
J			T_R (sec)
J+1			K_{PR}
J+2			K_{IR}
J+3			V_{RMAX}
J+4			V_{RMIN}
J+5			T_A (sec)
J+6			K_{PM}
J+7			K_{IM}
J+8			V_{MMAX}
J+9			V_{MMIN}
J+10			K_G
J+11			K_P
J+12			K_I
J+13			V_{BMAX}
J+14			K_C
J+15			X_L
J+16			THETAP

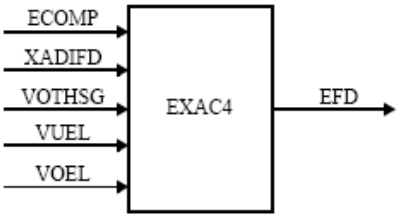
STATEs	#	Description
K		Sensed V_T
K+1		Regulator integrator
K+2		Regulator output, V_R
K+3		V_M

IBUS, 'ESST4B', I, T_R, K_{PR}, K_{IR}, V_{RMAX}, V_{RMIN}, T_A, K_{PM}, K_{IM}, V_{MMAX}, V_{MMIN}, K_G, K_P, K_I, V_{BMAX}, K_C, X_L, THETAP/

EXAC4

IEEE Type AC4 Excitation System

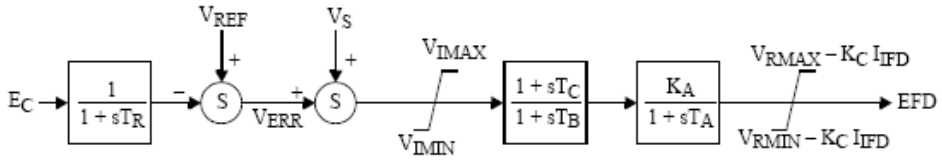
This model is located at system bus #_____ IBUS,
machine #_____ I.
This model uses CONs starting with #_____ J,
and STATEs starting with #_____ K.



CONs	#	Value	Description
J			T_R
J+1			V_{IMAX}
J+2			V_{IMIN}
J+3			T_C
J+4			T_B (sec)
J+5			K_A
J+6			T_A
J+7			V_{RMAX}
J+8			V_{RMIN}
J+9			K_C

STATEs	#	Description
K		$V_{measured}$
K+1		Lead lag
K+2		V_R

IBUS, 'EXAC4', I, T_R, V_{IMAX}, V_{IMIN}, T_C, T_B, K_A, T_A, V_{RMAX}, V_{RMIN}, K_C/

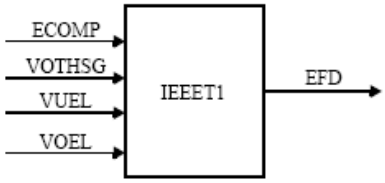


VS = VOTHSG + VUEL + VOEL

IEEET1

IEEE Type 1 Excitation System

This model is located at system bus #_____ IBUS,
machine #_____ I.
This model uses CONs starting with #_____ J,
and STATEs starting with #_____ K,
and VAR #_____ L.



CONs	#	Value	Description
J			T_R (sec)
J+1			K_A
J+2			T_A (sec)
J+3			V_{RMAX} or zero
J+4			V_{RMIN}
J+5			K_E or zero
J+6			T_E (>0) (sec)
J+7			K_F
J+8			T_F (>0) (sec)
J+9		0	Switch
J+10			E_1
J+11			$S_E(E_1)$
J+12			E_2
J+13			$S_E(E_2)$

STATEs	#	Description
K		Sensed V_T
K+1		Regulator output, V_R
K+2		Exciter output, EFD
K+3		Rate feedback integrator

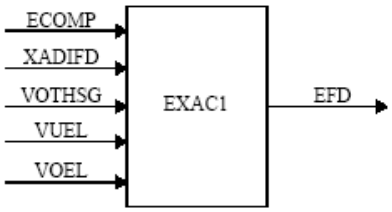
VAR	#	Description
L		K_E

IBUS, 'IEEET1', I, T_R, K_A, T_A, V_{RMAX}, V_{RMIN}, K_E, T_E, K_F, T_F, 0., E_1, $S_E(E_1)$, E_2, $S_E(E_2)$/

EXAC1

IEEE Type AC1 Excitation System

This model is located at system bus #_____ IBUS,
machine #_____ I.
This model uses CONs starting with #_____ J,
and STATEs starting with #_____ K.



CONs	#	Value	Description
J			T_R (sec)
J+1			T_B (sec)
J+2			T_C (sec)
J+3			K_A
J+4			T_A (sec)
J+5			V_{RMAX}
J+6			V_{RMIN}
J+7			$T_E > 0$ (sec)
J+8			K_F
J+9			$T_F > 0$ (sec)
J+10			K_C
J+11			K_D
J+12			K_E
J+13			E_1
J+14			$S_E(E_1)$
J+15			E_2
J+16			$S_E(E_2)$

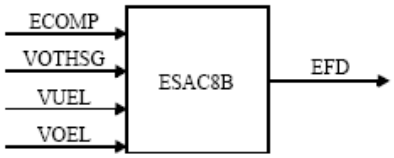
STATEs	#	Description
K		Sensed E_T
K+1		Lead lag
K+2		Regulator output
K+3		V_E
K+4		Feedback output

IBUS, 'EXAC1', I, T_R, T_B, T_C, K_A, T_A, V_{RMAX}, V_{RMIN}, T_E, K_F, T_F, K_C, K_D, K_E, E_1, $S_E(E_1)$, E_2, $S_E(E_2)$/

ESAC8B

Basler DECS

This model is located at system bus #_____ IBUS,
machine #_____ I.
This model uses CONs starting with #_____ J,
and STATEs starting with #_____ K,
and VAR #_____ L.

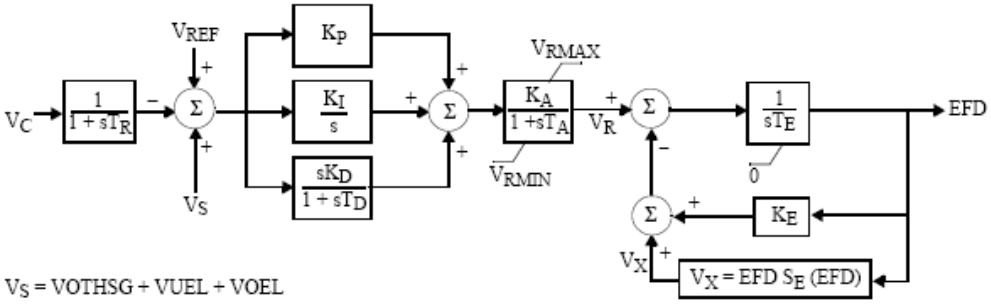


CONs	#	Value	Description
J			T_R (sec)
J+1			K_P
J+2			K_I
J+3			K_D
J+4			T_D (sec)
J+5			K_A
J+6			T_A
J+7			V_{RMAX} or zero
J+8			V_{RMIN}
J+9			$T_E > 0$ (sec)
J+10			K_E or zero
J+11			E_1
J+12			$S_E(E_1)$
J+13			E_2
J+14			$S_E(E_2)$

STATEs	#	Description
K		Sensed V_T
K+1		Integral controller
K+2		Derivative controller
K+3		Voltage regulator
K+4		Exciter output, EFD

VAR	#	Description
L		K_E

IBUS, 'ESAC8B', I, T_R, K_P, K_I, K_D, T_D, K_A, T_A, V_{RMAX}, V_{RMIN}, T_E, K_E, E_1, $S_E(E_1)$, E_2, $S_E(E_2)$/

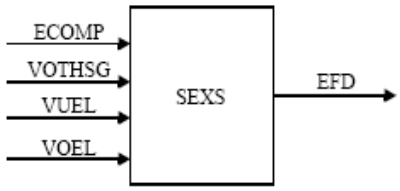


V_S = VOTHSG + VUEL + VOEL

SEXS

Simplified Excitation System

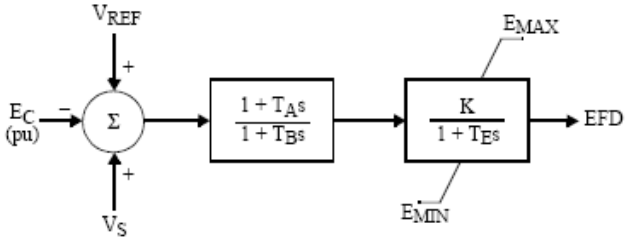
This model is located at system bus #_____ IBUS,
machine #_____ I.
This model uses CONs starting with #_____ J,
and STATEs starting with #_____ K.



CONs	#	Value	Description
J			T_A/T_B
J+1			T_B (>0) (sec)
J+2			K
J+3			T_E (sec)
J+4			E_{MIN} (pu on EFD base)
J+5			E_{MAX} (pu on EFD base)

STATEs	#	Description
K		First integrator
K+1		Second integrator

IBUS, 'SEXS', I, T_A/T_B, T_B, K, T_E, E_{MIN}, E_{MAX}/



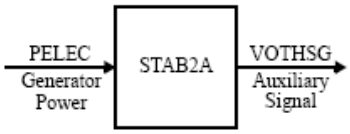
V_S = VOTHSG + VUEL + VOEL

MODELOS DE ESTABILIZADORES

STAB2A

Power Sensitive Stabilizing Unit (ASEA)

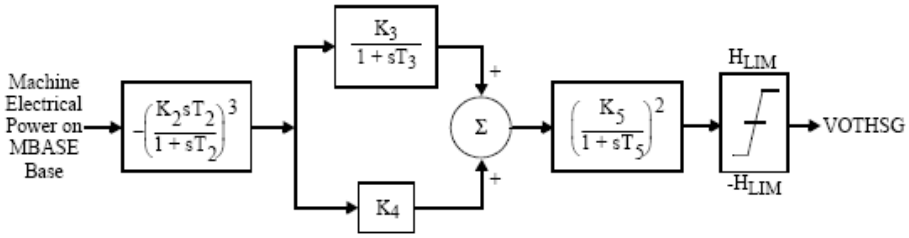
This model is located at system bus #_____ IBUS,
machine #_____ I.
This model uses CONs starting with #_____ J,
and STATEs starting with #_____ K.



CONs	#	Value	Description
J			K_2
J+1			T_2 (sec) (≥0)
J+2			K_3
J+3			T_3 (sec) (≥0)
J+4			K_4
J+5			K_5
J+6			T_5 (sec) (≥0)
J+7			H_{LIM}

STATEs	#	Description
K		Implicit
K+1		Integration
K+2		State
K+3		Variables

IBUS, 'STAB2A', I, K_2, T_2, K_3, T_3, K_4, K_5, T_5, H_{LIM}/



MODELOS DE RELEVADORES

LDSHBL, LDSHOW, LDSHZN, LDSHAR, LDSHAL

Underfrequency Load Shedding Model

DYRE Data Record:

I, 'LDSHxx', LID f_1, t_1, $frac_1$, f_2, t_2, $frac_2$, f_3, t_3, $frac_3$, T_b /

LID is an explicit load identifier or may be '*' for application to loads of any ID associated with the subsystem type.

Model suffix "xx"	"I" Description
BL	Bus number
OW	Owner number
ZN	Zone number
AR	Area number
AL	0

CONs	Value	Description
J		f_1, first load shedding point (Hz)
J+1		t_1, first point pickup time (sec)
J+2		$frac_1$, first fraction of load to be shed
J+3		f_2, second load shedding point (Hz)
J+4		t_2, second fraction pickup time (sec)
J+5		$frac_2$, second fraction of load to be shed
J+6		f_3, third load shedding point (Hz)
J+7		t_3, third point pickup time (sec)
J+8		$frac_3$, third fraction of load to be shed
J+9		T_b, breaker time (sec)

Reserved ICONs	Description
N	First point delay flag
N+1	First point time-out flag
N+2	First timer status
N+3	Second point delay flag
N+4	Second point time-out flag
N+5	Second timer status
N+6	Third point delay flag
N+7	Third point time-out flag
N+8	Third timer status

VARs	Description
L	First timer memory
L+1	Second timer memory
L+2	Third timer memory

LVSHBL, LVSHOW, LVSHZN, LVSHAR, LVSHAL

Undervoltage Load Shedding Model

DYRE Data Record:

I, 'LVSHxx', LID, JBUS, V1, T1, F1, V2, T2, F2, V3, T3, F3, TB/

LID is an explicit load identifier or may be '*' for application to loads of any ID associated with the subsystem type.

Model suffix "xx"	"I" Description
BL	Bus number
OW	Owner number
ZN	Zone number
AR	Area number
AL	0

ICONs	Value	Description
M		JBUS, remote bus number where voltage is measured*

* Set JBUS = 0, if remote bus is same as the local bus to which the load is connected.

CONs	Value	Description
J		V1, first load shedding point (pu)
J+1		T1, first point pickup time (sec)
J+2		F1, first fraction of load to be shed
J+3		V2, second load shedding point (pu)
J+4		T2, second fraction pickup time (sec)
J+5		F2, second fraction of load to be shed
J+6		V3, third load shedding point (pu)
J+7		T3, third point pickup time (sec)
J+8		F3, third fraction of load to be shed
J+9		TB, breaker time (sec)

VARs	Description
L	First timer memory
L+1	Second timer memory
L+2	Third timer memory

Reserved ICONs	Description
N	First point delay flag
N+1	First point time-out flag
N+2	First timer status
N+3	Second point delay flag
N+4	Second point time-out flag
N+5	Second timer status
N+6	Third point delay flag
N+7	Third point time-out flag
N+8	Third timer status