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In[194]:= Needs["IdentifiabilityAnalysis`"]
          startTime = AbsoluteTime[]

Out[195]= 3.6878012376241517 × 109

In[196]:= vars = {x1, x2, x3, x4}

Out[196]= {x1, x2, x3, x4}

In[197]:= params = {b, c, d, q1, q2, k1, k2, w1, w2}

Out[197]= {b, c, d, q1, q2, k1, k2, w1, w2}

In[198]:= sys = {x1'[t] == -b*x1[t]*x4[t] - d*x1[t] + u1[t],
                  x2'[t] == b*q1*x1[t]*x4[t] - k1*x2[t] - w1*x2[t],
                  x3'[t] == b*q2*x1[t]*x4[t] + k1*x2[t] - w2*x3[t],
                  x4'[t] == -c*x4[t] + k2*x3[t],
                  x1[0] == 0, x2[0] == 0, x3[0] == 0, x4[0] == 0}

Out[198]= {x1'[t] == u1[t] - d x1[t] - b x1[t] x4[t],
            x2'[t] == -k1 x2[t] - w1 x2[t] + b q1 x1[t] x4[t],
            x3'[t] == k1 x2[t] - w2 x3[t] + b q2 x1[t] x4[t],
            x4'[t] == k2 x3[t] - c x4[t], x1[0] == 0, x2[0] == 0, x3[0] == 0, x4[0] == 0}

In[199]:= output = {x1[t], x2[t]}

Out[199]= {x1[t], x2[t]}

In[200]:= iad = IdentifiabilityAnalysis[{sys, output}, vars, params, t, {u1}]

Out[200]= IdentifiabilityAnalysisData[False, <>]

In[201]:= iad["IdentifiableQ"]

Out[201]= False

In[202]:= iad["DegreesOfFreedom"]

Out[202]= 8

In[203]:= iad["NonIdentifiableParameters"]

Out[203]= {b, c, k1, k2, q1, q2, w1, w2}

In[204]:= endTime = AbsoluteTime[]
          N[endTime - startTime]

Out[204]= 3.6878012378959397 × 109

Out[205]= 0.271788

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