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Behaviour of a series of reservoirs separated by drowned gates

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Modern control systems tend to be based on computers and therefore to operate by sending commands to structures at given intervals (discrete time control system). Moreover, for almost all water management control systems there are practical lower limits on the time interval between structure adjustments and even between measurements. The water resource systems that are being controlled are physical systems whose state changes continuously. If we combine a continuously changing system and a discrete time controller we get a hybrid system. We use material from recent control theory literature to examine the behaviour of a series of reservoirs separated by drowned gates where the gates are under computer control.