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Sommario/riassunto	<p>Long description: This work presents novel methods for the analysis and the switching law design of periodically operated discretely controlled continuous systems. Such hybrid systems consist of a continuous-valued nonlinear plant arranged in feedback connection with a modular discrete-event controller. The plant features a finite number of operation modes. Differences in the mode dynamics are employed by the controller for regulating the plant outputs according to given specifications. Both transient and stationary control scenarios are studied in this book. Transient control tasks are tackled by a tailored extension of receding horizon model-predictive control. On this basis, procedures for the successive exploration of switching surface configurations and, alternatively, for a dynamic switching law realization are presented. Stationary control tasks are tackled by a systematic design of switching plane configurations. Here, strong focus is put on disturbance attenuation. The associated design problem is translated into a set of linear or bilinear matrix inequalities, which are solved via standard tools.</p>