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We consider a minimax control problem for linear parabolic systems with uncertain disturbances and pointwise constraints on state and control variables, whose dynamics is typical in applied problems. A natural approach to control design of such uncertain systems, related to H-infinity control and differential games, is minimax synthesis that guarantees the best system performance under the worst perturbations and ensures an acceptable behavior for any admissible perturbations. The design procedure essentially employs monotonicity properties of the parabolic dynamics and its asymptotics on the infinite horizon. We find a convenient suboptimal structure of feedback boundary controllers that ensures the required system performance and robust stability under any admissible perturbations. This is joint work with Boris S. Mordukhovich.