

Standing and plane waves induced by time-delay feedback in an oscillatory system

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Time-delay feedback schemes have been successfully applied to manipulate and control stationary and time-dependent patterns - including spatio-temporal chaos - in nonlinear media. We study time-delay feedback applied to generic oscillatory systems where we focus on the interplay of global feedback with space-dependent feedback. We first consider the stabilisation of uniform oscillations and then discuss the onset of standing wave patterns, their instabilities and the onset of plane waves.