# ERRATA

## Erratum: Nonlinear dynamics of a solid-state laser with injection [Phys. Rev. E 58, 4421 (1998)]

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In our analysis of the nonlinear dynamics of a solid-state laser driven by an injected sinusoidal field, we overlooked some earlier papers that should have been cited. In particular, Oppo, Politi, and their co-workers [1,2] derived the governing equation (3) in our paper (with different notation), starting from the Maxwell-Bloch equations for class-$B$ lasers, and pointed out the correspondence between the resulting system and a Toda oscillator with appropriate damping [3,1]. They also noted that the dynamics could exhibit both conservative and dissipative features [1]. Through numerical studies and local analyses, they found that unlocking could occur via phase entrainment (Hopf bifurcation), phase drift (saddle-node bifurcation), or a codimension-2 bifurcation combining these characteristics [2].

Related ideas were developed by Braza and Erneux [4,5] and Solari and Oppo [6]. They used singular perturbation techniques to unfold the codimension-2 bifurcation locally, and discovered small attracting periodic orbits and tori close to the ghost of the locked state, just beyond the threshold where the laser unlocks. These small attractors can coexist with the much larger reinjection loops [6] and tori of our paper. Moreover, as Ermentrout has found numerically [7], the small attracting tori need not be unique; there can be several of them nested inside one another.

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[5] P. A. Braza, Opt. Commun. **103**, 95 (1993).
[6] H. G. Solari and G.-L. Oppo, Opt. Commun. **111**, 173 (1994).
[7] B. Ermentrout (private communication).