Small scale response in periodically forced turbulence ROBERT
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de Lyon, TIMOTHY CLARK, Tau Technologies — The response of the small scales
of an isotropic homogeneous turbulence subject to periodic large scale forcing is
studied using two-point closures and other simpler models. Closure results are val-
idated by comparison with available numerical and experimental data. The phase
and amplitude of the dissipation perturbations show nontrivial dependence on the
forcing frequency. Perturbation methods are used to understand the basic features
of this dependence. Simple finite dimensional models are found to be fundamentally
incapable of reproducing the essential features of this problem.

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