Ginibre-Tsutsumi-Velo (1997) proved local well-posedness for the Zakharov system

\[ i\partial_t u + \Delta u = nu, \quad \partial_t^2 n - \Delta n = \Delta |u|^2 \]

where \( u = u(x, t), \ n = n(x, t), \ x \in \mathbb{R}^d \), for any dimension \( d \), in the inhomogeneous Sobolev spaces \( (u, n) \in H^k(\mathbb{R}^d) \times H^\ell(\mathbb{R}^d) \) for a range of exponents \( k, \ell \) depending on \( d \). Here we restrict attention to dimension \( d = 1 \) and present a few results establishing local ill-posedness for exponent pairs \( (k, \ell) \) outside of the well-posedness regime. The main result demonstrates ill-posedness for \( k = 0, \ell < -\frac{1}{2} \), in the sense that the data-to-solution map fails to be uniformly continuous. The technique is to take initial-data configured to excite a nonlinear resonance between \( u \) and \( n \), introduce a nonlinear ansatz for the solution, and employ a low regularity time-globalizing technique developed by Colliander-Holmer-Tzirakis (2006) to show that the ansatz remains a valid approximation for a suitably long time. (Received September 26, 2006)