1173-60-215 **Davar Khoshnevisan*** (davar@math.utah.edu), Dept. Mathematics, University of Utah, Salt Lake City, UT 84112-0090, and **Kunwoo Kim** and **Carl Mueller**. *Dissipation in Parabolic SPDE: Oscillation and decay of the solution.* Preliminary report.

Summary. We consider stochastic heat equations of the type, $\partial_t u = \partial_x^2 u + \sigma(u)\dot{W}$ on $(0\,,\infty) \times [-1\,,1]$ with periodic boundary conditions and on-degenerate positive initial data, where $\sigma : \mathbb{R} \to \mathbb{R}$ is a non-random Lipschitz continuous function and $\dot{W}$ denotes space-time white noise. If additionally $\sigma(0) = 0$ then the solution is known to be positive (Mueller 1991). In that case, we prove that the oscillations of the logarithm of the solution decay sublinearly, in fact slower than logarithmically, as time tends to infinity. Among other things, it follows that, with probability one, all limit points of $t^{-1} \sup_{x\in[-1,1]} \log u(t\,,x)$ and $t^{-1} \inf_{x\in[-1,1]} \log u(t\,,x)$ must coincide. As a consequence of this fact, we prove that, when σ is linear (this is sometimes known as the *parabolic Anderson model*), there is a.s. only one such limit point and hence the entire path decays almost surely at a precise exponential rate. This is a jointwork of Kunwoo Kim and Carl Mueller. (Received September 20, 2021)