Nicodemi and Jensen Reply: The first question raised in Levin's Comment [1] to our Letter [2] concerns the relation of Monte Carlo time scales to creep experiments. This is an issue debated in the literature (see references in [2]). A time scale, t_0, naturally appears in the logarithmic creep interpolation formula: $\Delta M(t) \simeq \Delta M_0[1 + \frac{\mu T}{U_c}\ln(\frac{t+t_0}{t_0})]^{-1/\mu}$. As discussed by Feigel'man *et al.* [3] (see also references in [2]), t_0 is not a microscopic scale: measurable in both simulations and creep experiments, it offers a natural comparison of their two time scales. In this respect, our data compare very well with experimental measures. The time conversion factor, then, cannot be found, as proposed by Levin, in a microscopic "single vortex attempt time." Notice that one Monte Carlo step in our model (which is coarse grained on a scale l_0) results in the relocation of a vortex on a distance l_0 (here as large as λ) which, when l_0 is large, cannot correspond to Levin's given microscopic "attempt time."

Our model along with a saturation of the creep rate, $S(T)$, also consistently shows a saturation of the dissipation in the limit $T \to 0$. As in standard driven lattice gases [4], the effect of an external drive is introduced [6] by a bias in the Metropolis coupling of the system to the thermal bath: a particle can jump to a neighboring site with a probability $\min\{1, \exp[-(\Delta\mathcal{H} - \epsilon I)/T]\}$. Here, $\Delta\mathcal{H}$ is the change in $\mathcal{H}$ after the jump and $\epsilon = \pm 1, 0$ for a particle trying to hop along, opposite or orthogonal to the direction of the drive. A drive I generates a voltage V [5]: $V(t) = \langle \bar{v}(t) \rangle$. Here $\bar{v}(t)$ is an average vortex "velocity" in a small interval around the time t [this is to improve the statistics on $V(t)$] and $v(t) = \frac{1}{L}\sum_i v_i(t)$ is the "instantaneous velocity" [$v_i(t) = \pm 1, 0$ if the vortex i at time t moves along, opposite or orthogonal to I].

We show in Fig. 1 the differential resistivity, $\rho(T) = dV/dI$, measured for the same value of the model parameters used in the calculation of the creep rate $S(T)$ of Fig. 1 in Ref. [2]. The data are averaged over up to 256 realizations of noise and pinning background. The continuous curve superimposed to $\rho(T)$ corresponds to the linear fit $\rho(T) = \rho_0 + \sigma_\rho T$. These results clearly show a saturation in $\rho(T)$ at low T towards a finite value, in a way similar to the one recorded in $S(T)$.

The details of *I-V* characteristics will be shown elsewhere (see also [6]). We stress [2], however, that the above transport properties are recorded in a strongly off-equilibrium regime. This is in agreement with a sequence of recent experiments [7] which clearly showed that transport measurements exhibit strong off-equilibrium memory effects (as well as magnetic properties). Experiments also demonstrated [7,8] that field cooled samples (often even more than zero field cooled) can be very far from the equilibrium and remain jammed in metastable states. Sometimes a high precision is required to establish whether a quantity which seems almost constant (the "equilibrium" found in [1]) is in fact slowly, logarithmically, relaxing in time (as shown, for instance, in [7,8]).

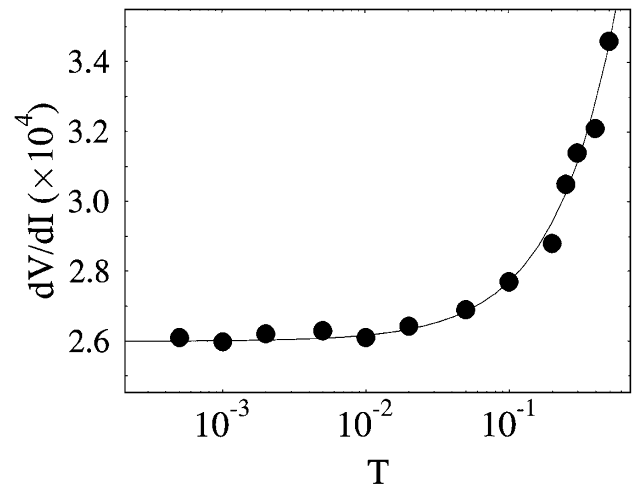

FIG. 1. The differential resistivity, $\rho = dV/dI$, in the restricted occupancy model is plotted as a function of the temperature, T, for $N_{\text{ext}} = 10$. The continuous superimposed curve is a linear fit. The saturation of $\rho(T)$ for $T \to 0$ compares well with the one of the creep rate, $S(T)$.

Finally, we point out that creep at vanishing temperature is observed in a very broad set of materials besides high T_c superconductors and some of these (e.g., UPt3) are not layered systems. Hence, a more general explanation than the one suggested by Levin seems necessary.

In conclusion, we have shown that our model for vortex matter describes the low T saturation of both the magnetic creep, S, and differential resistivity, ρ. These phenomena can be consistently understood in the "off-equilibrium scenario" we proposed in [2], which is in agreement with several other recent experimental discoveries [7,8]. Interestingly, a unified picture emerges of magnetic and transport properties.

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