Li and Rau Reply: Bode et al., in a Comment [1] on our Letter [2], claim that the vortex (V) core width $d_{vc}$ in magnetic nanodisks (NDs) is on the order of 10 nm and essentially independent of the ND diameter $d$. We are presenting published data (see also Fig. 1) that clearly show that this claim is incorrect. For instance, a recent transmission electron microscopy experiment on $d = 6 \, \mu m$ Co elements gives $d_{vc} = 80 \, nm$ [3]. Their claim rests in a formula [Eq. (1) in Ref. [1]] published by Feldtkeller and Thomas [4] for the Bloch line radius of thin films ($d = \infty$) with zero thickness $D = 0$ and zero distance $\rho$ from the Bloch line center using Lilley’s definition for the wall thickness [5]. We [6] and others [7] have already experimentally shown that the V wall thickness depends strongly on $\rho$ in patterned Co NDs. Equation (1) in Ref. [1] does not exhibit any dependence on $d$ and $D$ and should not be used for finite $D$ and $d$. Usov and Peschany [8], Komineas [9], as well as Jubert and Allenspach [10] show that $d_{vc}$ depends on $d$ and $D$. Data taken from Refs. [10,11] show that $d_{vc}$ changes at least by a factor of 4 with changing $D$ (see Fig. 1). Buda et al. [11] remark that, increasing $D$, the out-of-plane demagnetization field decreases, and hence the exchange energy widens the V core. The failure of their claim can be more directly seen from Fig. 1, which gives $d_{vc}$ versus different $d$ values obtained from recent publications [2–19] together with a horizontal black line that corresponds to a $d_{vc}$ value of 10 nm as proposed in Ref. [1]. The clear deviation of most of the presented data from this line unambiguously shows that $d_{vc}$ is not “on the order of 10 nm” and not “essentially independent of $d$” as claimed in Ref. [1]. Quite recently, Komineas showed for V-antivortex (AV) pairs that in the presence of an easy-plane anisotropy, $d_{vc}$ scales with the reduced anisotropy constant $Q = K_r/K_d$ [2]: $d_{vc} \sim 1/Q^{0.5}$ [20]. For our Co NDs, $Q = 8.4 \times 10^{-4}$ is obtained [2]. For this value, compared to a medium anisotropy in patterned Co NDs. Equation (1) in Ref. [2] does not exhibit any dependence on $d$ and $D$ and should not be used for finite $D$ and $d$. Usov and Peschany [8], Komineas [9], as well as Jubert and Allenspach [10] show that $d_{vc}$ depends on $d$ and $D$. Data taken from Refs. [10,11] show that $d_{vc}$ changes at least by a factor of 4 with changing $D$ (see Fig. 1). Buda et al. [11] remark that, increasing $D$, the out-of-plane demagnetization field decreases, and hence the exchange energy widens the V core. The failure of their claim can be more directly seen from Fig. 1, which gives $d_{vc}$ versus different $d$ values obtained from recent publications [2–19] together with a horizontal black line that corresponds to a $d_{vc}$ value of 10 nm as proposed in Ref. [1]. The clear deviation of most of the presented data from this line unambiguously shows that $d_{vc}$ is not “on the order of 10 nm” and not “essentially independent of $d$” as claimed in Ref. [1]. Quite recently, Komineas showed for V-antivortex (AV) pairs that in the presence of an easy-plane anisotropy, $d_{vc}$ scales with the reduced anisotropy constant $Q = K_r/K_d$ [2]: $d_{vc} \sim 1/Q^{0.5}$ [20]. For our Co NDs, $Q = 8.4 \times 10^{-4}$ is obtained [2]. For this value, compared to a medium anisotropy $Q = 1$ ($d_{vc} = 10 \, nm$ [1]) and including a thickness factor of 4, we obtain for $d_{vc}$ a value of 1.38 $\mu$m, which is close to our experimental values for single Vs as well as for Vs and AVs in AV pairs in $D = 30 \, nm$ Co elements (see Figs. 2 and 3 in Ref. [2]).

J. Li and C. Rau
Department of Physics and Astronomy
Rice University
Houston, Texas 77251-1892, USA

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