ERRATA

Erratum: Excitations, order parameters, and phase diagram of solid deuterium at megabar pressures [Phys. Rev. B 51, 14 987 (1995)]

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In Table I the (orthorhombic) space group identified as $Pmc2_1$ should be $Cmc2_1$. The latter is a special case of the former. The number of allowed modes and their symmetry is correct in the table. This correction does not affect the results.

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Erratum: Disorder in two-dimensional Josephson junctions [Phys. Rev. B 55, 14 499 (1997)]

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One of the regions in our disorder-temperature (s-t) phase diagram had a negative glass order parameter Δ, coexisting with a finite renormalized Josephson coupling z; this region was $s<t<\frac{1}{2}$ (see Fig. 2). While this is a formal solution of the replica symmetry breaking equations, we have realized now that this solution is unstable.

The average probability distribution of the Josephson phase $|\varphi_J(q)|^2$ is given by $\sim\exp[-|\varphi_J(q)|^2/2G_{\alpha,\alpha}(q)]$ [M. M'ezard and G. Parisi, J. Phys. I **1**, 809 (1991), Appendix III] where $G_{\alpha,\alpha}(q)$ is the replica diagonal Green's function. Thus a thermodynamic stability condition is that $G_{\alpha,\alpha}(q)>0$ for all q. In the coexistence phase we obtain (correcting a minor error in the entry for ''coexistence'' in Table I)

$$G_{\alpha,\alpha}(q)=\frac{4\pi(2t-1)}{q^2+z+\Delta}+\frac{4\pi(1+2s)}{q^2+z}+\frac{4\pi z(1-2s)}{(q^2+z)^2}.$$

For $\Delta>0$ we have $G_{\alpha,\alpha}(q)>0$ for all q and the coexistence phase is valid for $t<s<\frac{1}{2}$. However, for $\Delta<0$ the minimum of $G_{\alpha,\alpha}(q)$ is at $q=0$ and $G_{\alpha,\alpha}(0)>0$ yields the stability condition $1-2t<2(z+\Delta)/z$. From Eq. (46) we have

$$\frac{z+\Delta}{z}=e\left(\frac{2tv_0}{u_0}\right)^{2/(1-2s)}\left(\frac{2tv_0}{\Delta_c}\right)^{2(t-s)/[(1-2t)(1-2s)]},$$

i.e., for weak coupling $v_0\ll\Delta_c$ and with $v_0/u_0\sim O(1)$ this shows $z+\Delta\ll z$ for all $s<t<\frac{1}{2}$, unless $t-s$ is very small, of order $1/\ln(\Delta_c/2tv_0)$. Thus, at $t=s$, up to nonuniversal $1/\ln(\Delta_c/2tv_0)$ terms, the coexistence phase becomes unstable and for $s<t<\frac{1}{2}$ is replaced by the Josephson phase where $\Delta=0$, $z\neq0$. The phase boundary between the coexistence phase and the Josephson phase is therefore a continuous phase transition at the dashed line in Fig. 2, i.e., $s=t$, $s<\frac{1}{2}$ (rather than a first-order transition at the vertical line $t=\frac{1}{2}$, $s<\frac{1}{2}$). All other conclusions in the paper remain intact.