

**Erratum: Superfluid Hydrodynamic Model for the Enhanced Moments
of Inertia of Molecules in Liquid ^4He
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C. Callegari, A. Conjusteau, I. Reinhard, K. K. Lehmann, G. Scoles, and F. Dalfovo

In our Letter, we presented a superfluid hydrodynamic model for the increase in moment of inertia found when molecules rotate inside of liquid helium droplets. We have recently discovered a sign error in Eq. (1) of that paper, which should read

$$\nabla \cdot (\rho \nabla \phi) = \frac{\partial \rho}{\partial t} = -(\nabla \rho) \cdot (\boldsymbol{\omega} \times \mathbf{r}). \quad (1)$$

Equation (2) of our paper is not affected by this error, though we take this opportunity to point out that the surface normal in the last integral of this equation is defined as pointing *out* of the region of the liquid being considered.

An important consequence of correcting this error is that we now find that the net angular momentum created by the liquid flow satisfies the equation $\mathbf{J}_h = I_h \boldsymbol{\omega}$, where I_h , defined by Eq. (2) of our original paper, is the hydrodynamic contribution to the classical moment of inertia induced by molecular rotation. Thus the total angular momentum of the system is just the sum of the angular momenta of the molecule and the superfluid helium.

Equation (4) of our paper also needs to be corrected to read

$$\nabla^2 \phi + (\nabla \ln \rho) \cdot (\nabla \phi + \hat{\mathbf{x}} \times \mathbf{r}) = 0. \quad (4)$$

The sign error had only modest effects (maximum 12%) on the calculated hydrodynamic moments of inertia, I_h . This is because the sign error is equivalent to a change in the direction of rotation, which, in itself, would have no consequence if the inner boundary condition for ϕ is chosen consistently. The latter is, however, imposed in a region of very low helium density and affects the results in a minor way. Acetylene is the only apparent exception (42%) as the previously reported value of I_h for this molecule contained a typographical error; it should have been $8.6 \text{ u} \cdot \text{\AA}^2$ instead of the reported $6.6 \text{ u} \cdot \text{\AA}^2$. The conclusion drawn in the paper, that the superfluid hydrodynamic flow accounts for the experimentally observed increase in moment of inertia, is unchanged since the level of agreement obtained for the four heavy molecules considered is qualitatively the same. A corrected version of Table I is given below.

TABLE I. Moments of inertia for the molecules studied in this work. Units are $\text{u} \cdot \text{\AA}^2$. The quantities I_m and I_{eff} are the observed moments of inertia when the molecule is free and dissolved in the cluster, respectively. Their difference, ΔI , in the fourth column is compared with the hydrodynamic moment of inertia, I_h , of the present calculation. Reference numbers refer to those given in the original publication.

	I_m	I_{eff} (expt.)	ΔI	I_h (calc.)	Ref.
HCN	11.39	14.04	2.65	5.7	[8(a)]
DCN	14.0	16.9	2.9	5.6	[9]
HCCH	14.26	16.08	1.82	9.4	[8(c)]
HCCCH ₃	59.14	224.0	164.8	190	[9]
OCS	83.10	230.0	146.9	197	[1]
HCCCN	111.1	330.7	219.6	226	[9]
(HCN) ₂	289.5	872.5	583	619	[8(b)]